
**STATISTICS OF THE FISHERIES OF THE GULF
STATES, 1902.**

PREPARED IN THE DIVISION OF STATISTICS AND METHODS OF
THE FISHERIES, UNITED STATES FISH COMMISSION.

A. B. ALEXANDER,
Assistant in Charge.

STATISTICS OF THE FISHERIES OF THE GULF STATES, 1902.

The Gulf States, as here considered, comprise the western coast of Florida, Alabama, Mississippi, Louisiana, and Texas. The information presented applies only to the coast fisheries of commercial importance prosecuted in the Gulf of Mexico and bays and rivers immediately tributary, and does not include the fisheries of the interior waters of these states. The inquiries cover the calendar year 1902, and were begun in March and concluded in June, 1903. The results, which have already been published in condensed form as Statistical Bulletin No. 147, indicate that the fisheries of these states were more extensive in 1902 than in any previous year for which statistics are available.

The number of persons employed was 18,029, of whom 12,901 were engaged as fishermen in the vessel and shore fisheries, and 5,128 as shoresmen in wholesale fish establishments, oyster canneries, and other branches of industry connected with the fisheries. Florida employed in its fisheries 6,416 persons, Alabama 1,098, Mississippi 4,344, Louisiana 5,027, and Texas 1,144. The largest increase in the number of persons employed as compared with the returns for 1897, the year for which the last canvass was made, was 1,779, or 69.35 per cent, in Mississippi. There have also been comparatively large increases in all of the other states except Texas, where there was a slight decrease.

The total amount of capital invested in 1902 was \$4,707,460, of which \$1,945,320 was in Florida, \$328,285 in Alabama, \$1,270,408 in Mississippi, \$789,723 in Louisiana, and \$373,724 in Texas. There has been considerable increase in the investment in all of these states since 1897, and especially in Mississippi, where it amounted to \$752,107, or 145.11 per cent; in Florida the increase was \$796,058, or 69.26 per cent; and in Alabama \$163,096, or 98.73 per cent.

The number of fishing and transporting vessels employed was 714, valued at \$953,925. Their net tonnage was 9,221 tons, and the value of their outfit \$341,920. The number of boats in the shore fisheries was 7,102, valued at \$707,129. The fishing apparatus used on vessels and boats was valued at \$198,414, the shore and accessory property at \$1,586,672, and the cash capital amounted to \$919,400.

The products of the fisheries in 1902 aggregated 113,696,970 pounds, valued at \$3,494,196. Of this quantity the gulf coast of Florida produced 48,120,019 pounds, valued at \$1,462,166; Alabama produced 9,351,447 pounds, valued at \$266,682; Mississippi, 23,426,965 pounds,

valued at \$553,220; Louisiana, 24,754,135 pounds, valued at \$858,314; and Texas, 8,044,404 pounds, valued at \$353,814. The more important species in the fisheries of these states are oysters, the yield of which was 34,115,935 pounds, or 4,873,705 bushels, valued at \$1,263,689; mullet, including mullet roe, 27,233,322 pounds, \$448,806; sponges, 346,889 pounds, \$364,422; shrimp, 12,366,915 pounds, \$198,979; trout or squeteague, 4,789,047 pounds, \$173,207; buffalo-fish, 3,006,610 pounds, \$26,556; cat-fish, 2,415,315 pounds, \$72,991; channel bass or red-fish, 2,607,881 pounds, \$82,622; Spanish mackerel, 1,583,891 pounds, \$64,458; sheepshead, 1,974,815 pounds, \$48,590, and crabs, 1,708,625 pounds, \$29,741. A number of other species also were taken in considerable quantities.

Since 1897 the total yield of the fisheries has increased 48,336,347 pounds, or 73.95 per cent in quantity, and \$1,222,470, or 53.81 per cent in value, divided among the different states in varying proportions, with by far the greater part in Mississippi, Alabama, and Florida. The most remarkable gain was in Mississippi, where the quantity of products increased 199.20 per cent and the value 187.68 per cent. All of the states showed an increased catch of the more important species since 1897, and in all the states except Texas, there was also a large increase in the catch of oysters.

The oyster fishery is extensive in all the states of this region, the yield being largest in Mississippi and Louisiana. Oysters have been cultivated to some extent in Alabama in recent years, and in 1902 the yield from planted areas was 53,844 bushels, having a value of \$39,475, or more than 48 per cent of the value of the entire oyster output of the state. In the other states not much progress has so far been made in oyster planting, but in Mississippi and Louisiana laws have recently been enacted for the protection and improvement of the natural oyster grounds, and in the latter state efforts are being made to develop the use of unproductive areas for the purpose of oyster cultivation.

Some of the earlier publications relating to the fisheries of the Gulf States are as follows:

Fisheries of the Gulf of Mexico, by Silas Stearns. The Fisheries and Fishery Industries of the United States, Section II. Geographical Review of the Fisheries for 1880.

Report on the Fisheries of the Gulf States, by J. W. Collins and H. M. Smith. Bulletin U. S. Fish Commission 1891.

Report on the Coast Fisheries of Texas, by Charles H. Stevenson. Report U. S. Fish Commission 1889-1891.

The Fish and Fisheries of the Coastal Waters of Florida. Transmitted to the United States Senate by the Commissioner of Fish and Fisheries, January 28, 1897. Senate Document 100, Fifty-fourth Congress, second session. See also pages 263-342, Report of U. S. Fish Commissioner for 1896.

Statistics of the Fisheries of the Gulf States. Report U. S. Fish Commission, 1899.

The following tables give the number of persons employed, the amount of capital invested, and the quantity and value of the products of the fisheries of the Gulf States in 1901; also a comparison of the extent of the fisheries in 1897 and 1902:

Table showing the number of persons engaged in the fisheries of the Gulf States in 1902.

States.	Fisher- men.	Shores- men.	Total.
Florida	5,579	837	6,416
Alabama	714	384	1,098
Mississippi	1,787	2,557	4,344
Louisiana	3,766	1,261	5,027
Texas	1,055	89	1,144
Total	12,901	5,128	18,029

Table showing the investment in the fisheries of the Gulf States in 1902.

Items.	Florida.		Alabama.		Mississippi.	
	No.	Value.	No.	Value.	No.	Value.
Vessels	806	\$479,125	77	\$96,450	192	\$231,100
Tonnage	4,787		927		2,150	
Outfit		294,464		19,085		49,560
Boats	2,666	330,220	317	11,942	590	65,800
Seines	146	13,075	18	1,020	146	14,605
Gill nets	1,661	46,742	19	500	32	440
Stop nets	802	16,110				
Trammel nets	41	2,590	124	2,740	91	8,762
Fyke nets	10	60				
Dip nets	16	9				
Cast nets	77	362			27	184
Lines		2,472		810		827
Sponge apparatus		6,668				
Dredges			20	540	442	11,510
Tongs	608	4,887	449	2,617	659	2,627
Minor apparatus		2,486		6		56
Shore and accessory property		318,805		135,075		724,807
Cash capital		492,250		57,500		160,200
Total		1,945,320		828,285		1,270,408

Items.	Louisiana.		Texas.		Total.	
	No.	Value.	No.	Value.	No.	Value.
Vessels	77	\$39,595	62	\$107,655	714	\$953,925
Tonnage	468		939		9,221	
Outfit		13,535		25,286		341,920
Boats	2,968	240,203	561	58,964	7,102	707,129
Seines	155	18,788	166	16,735	626	64,223
Gill nets					1,712	47,682
Stop nets					302	16,110
Trammel nets					256	14,082
Fyke nets	114	606			124	666
Dip nets			80	20	96	29
Cast nets			115	857	219	853
Lines		6,283		698		11,090
Sponge apparatus						6,663
Dredges					462	12,050
Tongs	1,848	9,218	297	1,680	8,861	21,029
Minor apparatus		610		779		3,937
Shore and accessory property		833,935		79,050		1,586,672
Cash capital		126,950		82,500		919,400
Total		789,723		378,724		4,707,460

416 REPORT OF COMMISSIONER OF FISH AND FISHERIES.

Table showing the quantity and value of products taken in the fisheries of the Gulf States in 1902.

Species.	Florida.		Alabama.		Mississippi.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Amber-fish.....	42,140	\$1,051				
Angel-fishes.....	71,125	1,831	2,450	\$77	2,450	\$58
Barracuda.....	34,435	1,203				
Black bass.....	12,680		86,050	3,218	17,060	864
Blue-fish, fresh.....	346,606	10,567	21,025	705	11,695	816
Blue-fish, salted.....	5,000	120				
Bonito.....	10,100	603				
Buffalo-fish.....			108,100	2,251	4,650	66
Butter-fish.....	3,140	46				
Cat-fish.....	75,800	1,690	150,750	3,821	62,400	1,267
Channel bass, or red-fish.....	1,104,251	16,247	70,315	2,722	93,270	4,167
Crappie.....			11,450	757	1,750	82
Crevaille.....	54,665	643	5,375	73		
Croaker.....			57,900	1,157	273,000	8,573
Drum, fresh-water.....			2,050	86		
Drum, salt-water.....	193,625	2,738	4,910	92	11,660	818
Flounders.....	80,151	2,182	36,100	1,330	79,460	3,225
German carp.....	1,175	83				
Groupers.....	437,089	7,279	635,000	6,350		
Grunts.....	374,209	18,029				
Hog-fish.....	66,130	3,236				
Hound-fish.....	6,000	360				
Jew-fish.....			2,000	40		
Jurel.....	30,025	369	200	4		
King-fish.....	151,900	3,843	800	23		
Lady-fish, fresh.....	697,800	11,945	1,375	83		
Lady-fish, salted.....	700	21				
Margate-fish.....	3,500	222				
Menhaden.....	2,500	25	10,000	25		
Moon-fish.....	10,623	314	800	10		
Mullet, fresh.....	22,223,685	327,123	1,546,300	23,457	593,750	10,047
Mullet, salted.....	2,589,190	77,313			6,000	300
Mullet roe, salted.....	134,837	6,270				
Mutton-fish.....	28,301	849				
Permit.....	10,000	500				
Pig-fish.....	2,000	60	18,950	349		
Pike and pickerel.....	175	9	1,500	90		
Pompano.....	487,099	26,276	10,800	829	6,645	467
Porgy.....	70,960	3,548				
Pork-fish.....	23,332	3,145				
Sailor's choice, or pin-fish.....	111,746	3,736	12,500	209	6,600	166
Sardines.....	29,600	998				
Sea bass.....	9,800	128	8,850	151	3,445	178
Shad.....			150	3		
Sheepshead.....	1,873,650	21,686	75,050	2,820	70,225	2,964
Snapper, red.....	8,074,066	237,428	3,466,500	69,331		
Snappers, other.....	358,256	10,428	550	14		
Spanish mackerel, fresh.....	1,432,356	55,908	33,650	1,285	7,455	416
Spanish mackerel, salted.....	40,560	1,622				
Spot.....	14,250	300	63,850	1,035	77,500	2,021
Strawberry bass.....			14,950	1,007	1,750	82
Sturgeon.....	343,291	8,532	100,000	3,330	24,100	1,200
Caviar.....	5,691	3,025	5,000	2,000	414	310
Suckers.....	4,800	372				
Sun-fishes.....	15,100	645	17,200	1,118	3,850	124
Tang, or surgeon-fish.....	200	10				
Trout or squeteague, fresh.....	1,804,614	44,221	259,450	10,586	473,845	17,728
Trout or squeteague, salted.....	54,088	2,024				
Trunk-fish.....	300	12				
Turbot.....	850	66				
Warmouth.....			18,200	1,155	4,500	281
Whiting.....	20,254	303	24,900	482	53,310	1,252
Yellow-tail.....	93,687	6,036	325	6		
Other fish.....	400	16				
Alligator hides.....	54,400	4,109				
Clam.....	800	100				
Conch.....	3,334	890				
Crab, hard.....	1,333	83	75,230	2,218	234,933	4,680
Crab, soft.....	280	84			30,233	2,830
Crab, stone.....	11,681	1,799				
Crawfish.....	55,604	3,232				
Otter skins.....	856	1,015				
Oyster.....	4,057,107	124,108	2,432,222	119,773	16,885,924	426,222
Shrimp.....	17,280	288	200	12	4,423,900	53,893
Sponges.....	346,889	364,422				
Terrapin.....	30,589	4,227	6,470	1,918	11,691	4,619
Tortoise-shell.....	495	1,732				
Turtle.....	369,257	28,335	7,000	125		
Turtle eggs.....	500	99				
Total.....	48,120,019	1,462,166	9,351,447	266,682	23,428,965	553,220

FISHERIES OF GULF STATES.

417

Table showing the quantity and value of products taken in the fisheries of the Gulf States in 1902—Continued.

Species.	Louisiana.		Texas.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Amber-fish					42,140	1,051
Angel-fishes					76,020	1,966
Barracuda					34,435	1,203
Black bass	18,940	1,328			84,730	5,895
Blue-fish, fresh	100	6	16,350	721	395,776	12,315
Blue-fish, salted					8,000	120
Bonito					10,360	503
Buffalo-fish	2,887,860	23,919	6,000	320	3,005,610	26,556
Butter-fish					8,140	46
Cat-fish	2,051,365	63,024	75,000	3,189	2,415,315	72,991
Channel bass, or red-fish	441,695	19,961	898,460	39,525	2,607,881	82,622
Crappie					13,200	839
Crevalle	3,160	113	6,680	192	69,880	1,021
Croaker	154,860	7,188	58,050	2,408	543,810	19,326
Drum, fresh-water	3,600	35			5,550	181
Drum, salt-water	51,280	1,302	157,400	3,188	418,875	7,638
Flounders	2,100	129	240,900	11,093	488,741	17,959
German carp					1,175	83
Groupers			40,169	1,195	1,112,258	14,824
Grunts					374,200	18,029
Hog-fish			4,900	204	70,090	3,440
Hound-fish					6,000	360
Jew-fish			65,722	2,137	67,722	2,177
Jurel					30,225	373
King-fish					152,700	8,866
Lady-fish, fresh					699,175	11,978
Lady-fish, salted					700	21
Margate-fish					3,500	222
Merhaden					12,500	50
Moon-fish					11,428	324
Mullet, fresh	122,710	3,884	16,800	412	24,503,245	384,923
Mullet, salted					2,595,190	77,613
Mullet roe, salted					184,887	6,270
Mutton-fish					28,301	849
Permit					10,000	500
Pig-fish					20,950	2,498
Pike and pickerel			57,300	2,239	58,975	2,338
Pompano	3,230	350	30,570	2,238	538,344	30,160
Porgy					70,960	3,548
Pork-fish					23,332	3,116
Sailor's choice, or pin-fish					130,846	4,111
Sardines					29,600	998
Sea bass					17,095	457
Shad					150	3
Sheepshead	838,560	11,381	217,330	9,739	1,974,815	48,590
Silver perch	62,850	8,009			62,850	3,009
Snapper, red			2,067,987	103,898	18,608,553	410,157
Snappers, other					858,806	10,442
Spanish mackerel, fresh	6,050	607	63,830	4,621	1,543,341	62,836
Spanish mackerel, salted					40,560	1,622
Spot					155,600	3,356
Strawberry bass					16,700	1,089
Sturgeon					467,391	13,662
Caviar					11,105	5,336
Suckers					4,800	372
Sun-fishes	7,900	246			44,050	2,134
Tang, or surgeon-fish					200	10
Trout or squeteague, fresh	1,078,240	49,071	1,119,300	49,577	4,734,949	171,183
Trout or squeteague, salted					54,098	2,024
Trunk-fish					300	12
Turbot					850	66
Warmouth					22,700	1,436
Whiting			41,700	1,598	140,164	8,633
Yellow-tail	6,120	245			100,132	6,287
Other fish	31,400	1,164	21,650	722	53,450	1,902
Alligator hides	194,840	23,192			249,240	27,241
Clam					800	100
Conch					3,334	890
Crab, hard	1,312,135	16,025	42,800	2,022	1,666,431	25,028
Crab, soft					30,513	2,914
Crab, stone					11,681	1,799
Crawfish	16,000	615			71,664	8,897
Otter skins					355	1,015
Oyster	8,338,891	493,227	2,401,791	100,359	34,115,935	1,263,689
Shrimp	7,634,720	131,715	290,815	8,566	12,366,015	198,979
Sponges					946,880	364,422
Terrapin	30,589	6,439	5,850	705	85,499	17,963
Tortoise shell					495	1,732
Turtle	5,140	199	97,060	3,888	478,457	32,097
Turtle eggs					600	99
Total	24,754,185	858,314	8,044,404	353,814	118,696,970	3,494,196

418 REPORT OF COMMISSIONER OF FISH AND FISHERIES.

Supplementary table showing certain of the above products in number and bushels.

Products.	Florida.		Alabama.		Mississippi.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Alligator hides .....number..	9,067	\$4,109				
Clams .....bushels.....	100	100				
Crab, hard .....number..	8,999	88	225,690	\$2,218	704,799	\$4,680
Crab, soft .....do.....	840	84			90,699	2,580
Crab, stone .....do.....	11,681	1,799				
Otter skins .....do.....	201	1,016				
Oysters .....bushels.....	579,587	124,108	847,460	119,778	2,405,182	426,222
Terrapin .....number..	10,593	4,227	3,597	1,918	8,496	4,619

Products.	Louisiana.		Texas.		Total.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Alligator hides .....number..	88,968	\$23,182			48,035	\$27,241
Clams .....bushels.....					100	100
Crab, hard .....number..	3,936,405	16,025	128,400	\$2,022	4,999,293	25,028
Crab, soft .....do.....					91,539	2,914
Crab, stone .....do.....					11,681	1,799
Otter skins .....do.....					201	1,016
Oysters .....bushels.....	1,188,418	493,227	848,113	100,859	4,873,705	1,263,689
Terrapin .....number..	15,294	6,439	2,925	765	40,905	17,963

Comparative table showing the extent of the fisheries of the Gulf States in 1897 and 1902.

States.	Persons engaged.				Capital invested.			
	1897.	1902.	Increase or decrease in 1902 compared with 1897.		1897.	1902.	Increase in 1902 compared with 1897.	
			No.	Percent- age.			Amount.	Percent- age.
Florida	5,011	6,416	+1,405	+28.03	\$1,149,262	\$1,945,320	\$796,058	69.28
Alabama	789	1,098	+ 809	+89.16	165,189	328,285	168,096	98.73
Mississippi	2,565	4,844	+1,779	+69.35	518,801	1,270,408	752,107	145.11
Louisiana	4,403	5,027	+ 624	+14.17	513,813	789,728	275,910	53.69
Texas	1,199	1,144	- 55	- 4.58	237,496	373,724	136,228	57.36
Total.....	18,967	18,029	+4,062	+29.08	2,594,061	4,707,460	2,123,899	82.17

States.	Products.							
	Pounds.				Value.			
	1897.	1902.	Increase in 1902 compared with 1897.		1897.	1902.	Increase in 1902 compared with 1897.	
Amount.			Percent- age.	Amount.			Percent- age.	
Florida	28,256,219	48,120,019	19,864,800	70.30	\$944,798	\$1,462,166	\$517,373	54.76
Alabama	4,899,381	9,351,447	4,632,066	98.99	134,488	266,682	132,244	98.14
Mississippi	7,829,685	28,426,965	15,697,280	199.20	192,298	558,220	360,922	187.68
Louisiana	17,401,788	24,754,125	7,352,347	42.25	713,587	858,814	144,727	20.23
Texas	7,174,560	8,044,404	869,844	12.12	236,610	353,814	67,204	28.44
Total.....	65,360,623	118,696,970	48,336,347	78.95	2,271,726	3,494,196	1,222,470	58.81

FISHERIES OF WESTERN FLORIDA.

The west side of Florida has a longer coast line than any other Gulf state, its length being about 2,810 miles. The shore line, like that of the eastern coast of the state, is low, and is indented with numerous bays, sounds, and lagoons, which furnish good harborage for the light-draft fishing vessels. The principal indentations are Perdido Bay, Pensacola Bay, Santa Rosa Sound, Choctawhatchee Bay, St. Andrews Bay, Apalachicola Bay, St. Georges Sound, Apalachee Bay, Wiccassassee Bay, Clearwater Bay, Tampa Bay, Sarasota Bay, and Charlotte Harbor. While the rivers and small streams entering the gulf are numerous, the principal ones being the Escambia, Choctawhatchee, Apalachicola, Suwanee, Withlacoochee, Manatee, and Caloosahatchee, but little fishing, other than for sturgeon, is prosecuted in any of them except the Apalachicola River.

A serious difficulty encountered in certain counties bordering on the gulf is the lack of shipping facilities. To counteract this as far as possible, the wholesale dealers at Cedar Key, St. Petersburg, Tampa, and Punta Gorda operate a large fleet of transporting vessels which make regular trips to the fishing camps, taking out supplies and bringing back the catch. Nearly all of these vessels are fitted with refrigerating compartments, in which the fish are stored and thus brought to market in excellent condition. Formerly the fish were placed loose in the hold of the vessel with cracked ice thrown over them, but the loss from spoiling, caused by delays incident to head winds and calms, was so great that the dealers were compelled to adopt the present method.

During 1903 the Manatee County region, which is one of the best fishing sections in the state, was penetrated by a railroad which has been constructed as far south as Sarasota, and is eventually to be extended to Boca Grande. The Boca Grande terminus will undoubtedly exert a considerable influence upon the fisheries. At the present time the fishermen from lower Manatee County and Lee County ship their fish to Punta Gorda, on Charlotte Harbor, where there is a railroad connecting with northern points. Punta Gorda is 30 miles from the mouth of the harbor, however, while Boca Grande is at the entrance, and with the dealers located at the latter place the vessels will be saved the long journey to Punta Gorda.

A large storage and fish-fertilizer plant has been erected at Punta Gorda, but was not finished in time to operate in 1902. It is the intention of the company operating this plant to freeze the better grades of gulf fish, and convert the nonedible and spoiled fish into fertilizer.

A fire at Cedar Key May 19, 1902, which burned down the railroad station and one of the wholesale establishments and damaged several

others, considerably curtailed the fish trade of that place for several months.

Shad have been reported a number of times from the west coast of Florida, and an occasional specimen has been found by scientists. A Pensacola fisherman, who claimed to have caught 12 or 15 shad in a seine the latter part of February, 1900, in the early part of 1903 shipped to the Bureau of Fisheries two specimens which proved to be the Alabama shad (*Alosa alabamæ*). It is possible that this species is more abundant than is generally supposed, as but little netting has been done in the rivers of this region until within the last two or three years.

The west coast of Florida leads all of the other Gulf States in the catch of blue-fish, mullet, pompano, red snapper, grouper, Spanish mackerel, turtle, and a number of less important species. The following tables present in condensed form the extent of the fisheries in 1902:

Persons employed.

How engaged.	No.
On vessels fishing	1,906
On vessels transporting	146
In shore or boat fisheries	8,527
Shoresmen	887
Total	6,416

Table of apparatus and capital.

Items.	No.	Value.	Items.	No.	Value.
Vessels fishing.....	248	\$386,175	Apparatus—shore fisheries:		
Tonnage.....	3,925		Trammel nets.....	41	\$2,590
Outfit.....		180,611	Fyke nets.....	10	60
Vessels transporting.....	68	82,950	Dip nets.....	16	9
Tonnage.....	809		Cast nets.....	77	862
Outfit.....		43,853	Lines.....		540
Boats.....	2,666	330,220	Spongo apparatus.....		2,153
Apparatus—vessel fisheries:			Tongs, oyster.....	567	4,510
Seines.....	12	2,845	Tongs, terrapin.....	10	30
Gill nets.....	90	2,275	Traps, fish.....	244	520
Lines.....		1,932	Traps, otter.....	486	175
Spongo apparatus.....		3,510	Spears.....	58	33
Tongs.....	41	847	Guns.....	103	1,680
Spears.....	5	8	Minor apparatus.....		75
Apparatus—shore fisheries:			Shore and accessory property.....		213,805
Seines.....	134	10,230	Cash capital.....		492,250
Gill nets.....	1,571	44,467			
Stop nets.....	302	16,110	Total.....		1,945,820

Table of products.

Products.	Florida.		Products.	Florida.	
	Lbs.	Value.		Lbs.	Value.
Amber-fish	42, 140	\$1, 051	Sea bass	9, 800	\$128
Angel-fish	71, 136	1, 831	Sheepshead	1, 373, 650	21, 686
Barracuda	54, 426	1, 203	Snapper, red	8, 074, 065	237, 428
Black bass	12, 686	466	Snappers, other	368, 263	10, 428
Blue-fish, fresh	346, 606	10, 567	Spanish mackerel, fresh	1, 432, 356	55, 308
Blue-fish, salted	3, 000	127	Spanish mackerel, salted	40, 556	1, 622
Bonito	10, 100	503	Spot	14, 250	300
Butter-fish	3, 140	46	Sturgeon	343, 291	8, 532
Cat-fish	75, 800	1, 690	Sturgeon, caviar	5, 691	3, 025
Channel bass or red-fish	1, 104, 251	16, 247	Suckers	4, 800	372
Crevalle	54, 665	643	Sun-fish	15, 100	646
Drum, salt-water	193, 625	2, 738	Tang	200	10
Flounders	80, 181	2, 182	Trout or squeteague, fresh	1, 804, 614	44, 221
German carp	1, 175	33	Trout or squeteague, salted	54, 098	2, 024
Groupers	437, 089	7, 279	Trunk-fish	300	12
Grunts	374, 200	18, 029	Turbot	850	66
Hog-fish	65, 190	3, 236	Whiting	20, 254	303
Hound-fish	6, 000	360	Yellow-tail	93, 687	6, 036
Jurel	30, 025	369	Other fish	400	16
King-fish	151, 900	3, 843	Alligator hides	a 54, 400	4, 109
Lady-fish, fresh	697, 800	11, 945	Clam	b 800	100
Lady-fish, salted	700	21	Conch	c 3, 334	890
Margate-fish	3, 500	222	Crab, hard	d 1, 333	83
Menhaden	2, 500	25	Crab, soft	e 280	84
Moon-fish	10, 628	314	Crab, stone	f 11, 681	1, 799
Mullet, fresh	22, 223, 685	327, 123	Crawfish	55, 664	3, 282
Mullet, salted	2, 589, 190	77, 818	Otter skins	g 356	1, 015
Mullet roe, salted	134, 887	6, 270	Oyster	h 4, 057, 107	124, 108
Mutton-fish	28, 301	849	Shrimp	17, 280	238
Permit	10, 000	500	Sponges	346, 889	864, 422
Pig-fish	2, 000	60	Terrapin	i 30, 899	4, 227
Pike and pickerel	175	9	Tortoise-shell	495	1, 732
Pompano	487, 099	26, 276	Turtle	369, 257	28, 385
Porgy	70, 960	3, 548	Turtle eggs	600	99
Pork-fish	23, 332	3, 146			
Sailor's choice or pin-fish	111, 746	5, 786			
Sardines	29, 600	998			
			Total	48, 120, 019	1, 462, 166

a Represents 9,067 in number.
 b Represents 100 bushels.
 c Includes 30 pearls, valued at \$523.
 d Represents 3,999 in number.
 e Represents 840 in number.

f Represents 11,681 in number.
 g Represents 201 in number.
 h Represents 579,687 bushels.
 i Represents 10,693 in number.

THE FISHERIES BY COUNTIES.

Commercial fishing was carried on in 18 of the 19 coastal counties. Monroe, Escambia, and Hillsboro counties have the most important fishing interests, Monroe leading in nearly every particular, owing largely to its extensive vessel and shore fisheries for sponges and turtles. Hillsboro occupies second place in most respects, and carries on important red-snapper, mullet, and sponge fisheries. Nearly every county shows a substantial increase over the reports of the previous canvass, and the total increase is very large. In 1890 the catch amounted to 27,418,562 pounds, valued at \$1,064,139; in 1895 to 31,929,127 pounds, worth \$1,111,086; while in 1902 it was 48,120,019 pounds, valued at \$1,462,166, a gain of 20,701,457 pounds and \$398,027 over 1890, and of 16,190,892 pounds and \$351,080 over 1895.

422 REPORT OF COMMISSIONER OF FISH AND FISHERIES.

The following tables show the extent of the fishing industry by counties:

Table showing, by counties, the number of persons employed in the fisheries of the west coast of Florida in 1902.

Counties.	On vessels fishing.	On vessels transporting.	In shore or boat fisheries.	Shoresmen.	Total.
Calhoun			17	1	18
Citrus	2		67	10	79
De Soto	80	62	162	68	807
Escambia	804		185	49	538
Franklin	94		623	347	1,064
Hernando			8	2	10
Hillsboro	140	48	895	131	714
Lafayette			16	6	22
Lee			234	29	263
Levy	7	8	261	61	337
Manatee		4	177	80	211
Monroe	1,279	12	891	88	2,265
Pasco	27	6	12	8	43
Santa Rosa	17	2	41		60
Taylor		2	86		88
Wakulla		2	173		175
Walton			17		17
Washington	6		222	22	250
Total	1,906	146	3,527	837	6,416

Table showing, by counties, the apparatus and capital employed in the fisheries of the west coast of Florida in 1902.

Items.	Calhoun.		Citrus.		De Soto.		Escambia.		Franklin.	
	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.
Vessels fishing			1	\$250	3	\$6,200	42	\$144,100	18	\$10,800
Tonnage			5		24		1,598		187	
Outfit				195		2,787		49,568		5,215
Vessels transporting					31	21,500				
Tonnage					269					
Outfit						23,840				
Boats	11	\$1,060	65	1,535	95	7,755	108	14,830	433	44,030
Apparatus—vessel fisheries:										
Seine					4	2,200	2	120	3	285
Gill nets									8	90
Lines								1,685		16
Sponge apparatus										161
Tongs			2	18					51	262
Apparatus—shore fisheries:										
Seine	4	225					13	975	29	1,980
Gill nets	6	150	43	985	62	1,630	44	1,115	117	2,431
Stop nets					91	6,110				
Trammel nets							38	1,870		
Fyke nets							10	60		
Dip nets					1	1	15	8		
Cast nets							5	20	57	273
Lines				10				106		115
Sponge apparatus										90
Tongs, oyster			19	170	17	125	45	338	246	2,042
Tongs, terrapin									10	30
Traps, fish									200	300
Traps, otter			30	11	145	51				525
Guns			2	30	10	150			85	25
Minor apparatus										25
Shore and accessory property		580		2,120		6,260		80,378		43,580
Cash capital				3,000		41,250				43,000
Total		2,085		8,324		119,862		295,169		155,180

Table showing, by counties, the apparatus and capital employed in the fisheries of the west coast of Florida in 1902—Continued.

Items.	Hernando.		Hillsboro.		Lafayette.		Lee.		Levy.	
	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.
Vessels fishing			19	\$24,850					1	\$750
Tonnage			240						8	
Outfit				18,455						850
Vessels transporting			17	89,700					5	2,850
Tonnage			258						46	
Outfit				15,180						655
Boats	8	\$820	340	37,885	16	\$480	112	\$12,780	260	10,005
Apparatus—vessel fisheries:										
Lines				180						17
Sponge apparatus				262						
Tongs			6	50						
Apparatus—shore fisheries:										
Seines			13	1,200						
Gill nets	8	820	184	5,485	16	640	250	6,710	282	8,416
Stop nets	3	105	81	1,980			61	4,085	3	105
Trammel nets			8	150						
Cast nets			10	40						
Lines				13						
Sponge apparatus				833						
Tongs, oyster			72	550						
Traps, otter							250	88	71	25
Guns							27	540	6	90
Minor apparatus				2						2
Shore and accessory property		800		49,725		900		2,780		7,915
Cash capital				282,500						20,000
Total		1,045		422,990		2,020		26,988		50,929

Items.	Manatee.		Monroe.		Pasco.		Santa Rosa.		Taylor.	
	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.
Vessels fishing			152	\$203,825	8	\$2,000	4	\$2,600		
Tonnage			1,844		24		83			
Outfit				114,235		1,675		2,586		
Vessels transporting	2	\$1,200	2	14,500	8	1,450	1	1,200	1	\$500
Tonnage	17	740	159	2,550	27	508	20	135	7	145
Outfit				2,550						
Boats	164	9,500	710	172,000	12	600	29	3,660	86	1,085
Apparatus—vessel fisheries:										
Seines				86			2	200		
Gill nets				2,150						
Lines				40				60		
Sponge apparatus				8,002				68		
Spears				5				3		
Apparatus—shore fisheries:										
Seines	11	2,220	10	465			8	240		
Gill nets	384	10,695	35	845	12	460			38	1,520
Stop nets	61	8,660			2	65				
Trammel nets							4	200		
Cast nets			5	29						
Lines				281						
Sponge apparatus				2,780						
Tongs, oyster							48	860		
Traps, fish			44	220						
Spears			58	29						
Minor apparatus				46						
Shore and accessory property		10,150		102,187		680		855		1,050
Cash capital				162,500						
Total		38,165		771,187		7,486		11,596		4,800

424 REPORT OF COMMISSIONER OF FISH AND FISHERIES.

Table showing, by counties, the apparatus and capital employed in the fisheries of the west coast of Florida in 1902—Continued.

Items.	Wakulla.		Walton.		Washington.		Total.	
	No.	Value.	No.	Value.	No.	Value.	No.	Value.
Vessels fishing					2	\$1,300	248	\$396,175
Tonnage					15		3,928	
Outfit						650		190,611
Vessels transporting	1	\$650					63	82,950
Tonnage	6						809	
Outfit		100						43,853
Boats	134	3,875	7	\$1,175	126	8,175	2,666	330,220
Apparatus—vessel fisheries:								
Seines					1	60	12	2,845
Gill nets					1	35	90	2,275
Lines								1,932
Sponge apparatus								9,510
Tongs					2	17	41	347
Spears								3
Apparatus—shore fisheries:								
Seines	4	480	3	240	44	2,255	134	10,230
Gill nets	112	2,390			28	675	1,671	44,467
Stop nets							302	16,110
Trammel nets			6	370			41	2,590
Fyke nets							10	60
Dip nets							16	9
Cast nets							77	382
Lines								540
Sponge apparatus								3,153
Tongs, oyster	20	160			64	528	557	4,510
Tongs, terrapin							10	30
Traps, fish							244	520
Traps, otter							496	175
Spears	7	4					58	33
Guns					23	345	103	1,680
Minor apparatus								75
Shore and accessory property		645		75		4,145		313,805
Cash capital								492,250
Total		8,204		1,860		18,085		1,946,320

Table showing, by counties and species, the yield of the fisheries of the west coast of Florida in 1902.

Species.	Calhoun.		Citrus.		De Soto.		Escambia.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Angel-fish			800	\$16	3,700	\$47	4,540	\$91
Black bass			7,250	184			1,200	60
Blue-fish, fresh	8,200	\$246			5,000	100	127,193	4,884
Cat-fish							4,800	240
Channel bass	300	6	68,100	1,305	127,329	1,617	10,866	481
Crevalle			900	15			25,000	255
Drum			21,950	421	14,100	177		
Flounders	1,200	21					3,097	101
Groupers							230,914	2,499
Jurel							19,490	198
Lady-fish, fresh	60,000	900					12,000	140
Menhaden							1,500	15
Moon-fish							4,658	144
Mullet, fresh	77,500	3,150	1,015,000	17,378	1,550,220	15,503	41,020	1,127
Mullet, salted	182,600	5,480	27,000	540				
Mullet roe, salted	4,000	160	700	28				
Pig-fish							1,500	45
Pompano	5,541	277	400	32	15,000	600	5,858	816
Sailor's choice					3,000	40		
Sardines							800	8
Sheepshead	4,200	128	129,800	2,659	159,138	1,989	2,162	81
Snapper, red							7,091,715	209,654
Snappers, other			113,909	2,209	18,000	225	450	19
Spanish mackerel, fresh	62,780	2,111	1,000	60	624,400	21,974	161,858	5,099
Spot							12,600	255
Sturgeon							259,171	4,326
Caviar							8,491	1,753
Sun-fish			4,600	92	800	12	2,100	105
Trout or aqueteague, fresh	33,700	1,011	167,944	3,092	125,787	2,516	25,778	1,061
Trout or aqueteague, salted	2,660	80						
Whiting					3,000	40		
Yellowtail					657	8	4,800	129

Table showing, by counties and species, the yield of the fisheries of the west coast of Florida in 1902—Continued.

Species.	Calhoun.		Citrus.		De Soto.		Escambia.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Alligator hides.....			400	\$27	3,600	\$240		
Crab, blue, hard.....							1,333	\$83
Crab, blue, soft.....							280	84
Otter skins.....			16	90	100	250		
Oyster.....			69,396	2,311	90,050	4,887	70,000	6,000
Terrapin.....					9,000	1,200	80	2
Turtle.....								
Total.....	492,681	\$13,571	1,619,165	80,482	2,763,481	51,425	8,129,249	238,700

Species.	Franklin.		Hernando.		Hillsboro.		Lafayette.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Amber-fish.....	100	\$2	110	\$2				
Angel-fish.....	375	10			4,710	\$72		
Black bass.....	2,000	100						
Blue-fish, fresh.....	8,190	169	100	2	10,300	259		
Bonito.....	200	8						
Butter-fish.....	300	3			2,840	43		
Cat-fish.....	65,000	1,300						
Channel bass.....	116,034	2,278	16,000	240	105,411	1,699		
Crevalle.....	150	3	500	8	880	14		
Drum.....	925	10	3,700	55	10,850	164		
Flounders.....	54,300	1,604			3,234	79		
German carp.....	1,175	33						
Groupers.....	2,500	50			61,600	671		
Grunts.....					17,300	254		
Jurel.....	50	1						
King-fish.....	200	10			2,700	108		
Mullet, fresh.....	1,169,800	15,781	168,100	3,362	2,329,888	22,516	640,000	\$12,800
Mullet, salted.....	557,170	17,936	48,000	960	171,487	4,384	140,000	4,200
Mullet roe, salted.....	17,050	804	5,000	250	7,250	278	13,800	690
Pompano.....	8,360	413			61,923	3,570		
Sailor's choice.....					200	3		
Sea bass.....					3,800	38		
Sheepshead.....	14,200	418	4,200	126	128,310	1,926		
Snapper, red.....	4,000	200			850,600	23,975		
Snappers, other.....			7,000	140	17,420	262		
Spanish mackerel, fresh.....	25,180	1,060			61,674	3,113		
Spanish mackerel, salted.....	10,050	402						
Sturgeon.....	74,120	3,706						
Caviar.....	1,950	1,073						
Suckers.....	300	12						
Sun-fish.....	2,950	118						
Trout or squeteague, fresh.....	163,593	4,679	12,000	240	176,897	4,443		
Trout or squeteague, salted.....	22,038	768						
Whiting.....	200	2			1,380	21		
Other fish.....	250	10						
Alligator hides.....	7,500	875						
Crab, stone.....					800	40		
Oyster.....	2,749,810	75,297			137,270	8,112		
Shrimp.....	17,280	288						
Spunges:								
Grass.....	5,304	1,114			45,593	9,574		
Sheepswool.....	2,920	7,832			17,017	45,947		
Yellow.....	1,859	1,067			4,603	2,534		
Terrapin.....	3,200	264			2,400	200		
Turtle.....	800	56						
Total.....	5,111,463	139,806	264,710	5,385	4,288,342	134,199	798,800	17,690

426 REPORT OF COMMISSIONER OF FISH AND FISHERIES.

Table showing, by counties and species, the yield of the fisheries of the west coast of Florida in 1902—Continued.

Species.	Lee.		Levy.		Manatee.		Monroe.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Amber-fish.....							41,500	\$1,088
Angel-fish.....	7,800	\$98	4,000	\$60	19,441	\$242	22,650	1,133
Barracuda.....							34,485	1,203
Blue-fish, fresh.....	7,100	142	25,900	1,166	20,400	408	9,600	480
Bonito.....							9,900	495
Cat-fish.....			6,000	150				
Channel bass.....	163,000	2,038	88,667	1,333	369,444	4,619		
Crevalle.....			13,800	201			4,560	46
Drum.....	18,800	235	49,100	787	71,200	891		
Flounders.....					1,100	22		
Groupers.....			500	8			180,050	8,936
Grunts.....			2,000	30			854,900	17,745
Hog-fish.....							65,190	3,236
Hound-fish.....							6,000	360
Jurel.....							1,785	74
King-fish.....							149,000	3,725
Lady-fish, fresh.....							110,500	4,205
Margate-fish.....							3,500	222
Moon-fish.....							2,000	80
Mullet, fresh.....	8,859,101	38,591	4,309,448	86,189	3,106,410	31,064	110,000	3,300
Mullet, salted.....	72,000	1,050	25,000	750	875,369	5,005		
Mullet roc, salted.....	4,500	270	1,200	60	33,972	1,358		
Mutton-fish.....							28,801	849
Permit.....							10,000	500
Pompano.....	187,176	5,487	2,174	174	225,950	13,557	6,200	980
Porgy.....							70,960	3,548
Pork-fish.....							28,382	3,145
Sailor's choice.....	5,000	63			1,171	15	102,375	3,615
Sardines.....							27,800	980
Sea bass.....			6,000	90				8
Sheepshead.....	399,981	5,000	95,219	2,857	379,210	4,866	150	8
Snapper, red.....							6,200	155
Snappers, others.....	12,000	150	60,433	1,432	27,700	846	90,534	5,432
Spanish mackerel, fresh.....	48,708	2,435	10,126	608	147,460	7,378	33,165	1,659
Spot.....							160	15
Sturgeon.....			10,000	500				
Caviar.....			250	200				
Suckers.....							4,500	360
Sun-fish.....							3,700	271
Tang.....							200	10
Trout or squeteague, fresh.....	298,970	5,979	103,141	2,779	476,175	11,904	650	33
Trunk-fish.....							300	12
Turbot.....							850	66
Whiting.....	4,000	50	200	3	10,974	137	500	50
Yellow-tail.....	1,200	15			3,200	41	82,830	5,798
Other fish.....							150	6
Alligator hides.....	30,600	2,040	6,900	450				
Clam.....			240	30			550	70
Conch.....							3,334	890
Crab, stone.....							10,881	1,759
Crawfish.....							55,664	3,282
Otter skins.....	210	525	30	150				
Oyster.....			729,841	17,377				
Sponges:								
Boat.....							2,455	1,473
Glove.....							7,365	1,111
Grass.....							88,242	18,753
Sheepswool.....			242	658			112,675	241,450
Velvet.....							5,852	8,187
Yellow.....			15	8			50,022	27,414
Wire, etc.....							280	46
Terrapin.....			10,800	1,800	2,700	226	2,259	582
Tortoise-shell.....							495	1,782
Turtle.....			29,908	2,800			388,069	25,511
Turtle eggs.....							600	99
Total.....	5,070,144	64,168	5,590,634	122,595	5,271,876	82,074	2,227,110	896,029

Table showing, by counties and species, the yield of the fisheries of the west coast of Florida in 1902—Continued.

Species.	Pasco.		Santa Rosa.		Taylor.		Wakulla.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Amber-fish	280	\$6	150	\$3				
Black bass			1,180	56				
Blue-fish, fresh	6,900	267	11,873	263				
Channel bass	13,500	203	2,200	84			16,300	\$326
Crevalle	1,185	19	1,700	17				
Drum	3,000	45						
Flounders			200	6			7,150	143
Groupers			11,625	115				
Lady-fish, fresh			20,000	250				
Lady-fish, salted			700	21				
Moon-fish			370	10				
Mullet, fresh	818,528	16,971	20,878	692	1,503,100	\$30,062	895,625	17,913
Mullet, salted					221,000	6,630		
Mullet roe, salted					18,800	940		
Pike			175	9				
Pompano	410	23	606	22				
Sheepshead	11,700	341	980	37	8,000	160		
Snapper, red			121,561	3,444				
Snappers, other	10,600	212						
Spanish mackerel, fresh	4,890	294	4,692	169			2,685	54
Spot			700	14				
Sun-fish			500	25				
Trout or squeteague, fresh	38,000	760	5,834	267	5,000	100	15,200	304
Yellow-tail			100	3				
Oyster			64,400	5,520			56,000	2,000
Sponges:								
Grass	1,543	324						
Sheepswool	664	1,795						
Yellow	203	90						
Terrapin			540	5				
Total	911,408	20,350	270,804	11,082	1,755,900	37,892	992,960	20,740

Species.	Walton.		Washington.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Amber-fish					42,140	\$1,051
Angel-fish	500	\$10	2,610	\$52	71,126	1,831
Barracuda					34,485	1,203
Black bass	1,100	55			12,680	455
Blue-fish, fresh	37,000	615	68,860	2,068	346,606	10,567
Blue-fish, salted			3,000	120	3,000	120
Bonito					10,100	503
Butter-fish					3,140	46
Cat-fish					76,800	1,690
Channel bass	1,600	48	6,000	120	1,104,251	16,247
Crevalle	6,500	65			54,665	648
Drum					193,625	2,738
Flounders	500	15	9,400	188	80,181	2,182
German carp					1,175	38
Groupers					437,089	7,279
Grunts					374,200	18,029
Hog-fish					65,190	8,236
Hound-fish					6,000	860
Jurel	8,200	86	500	10	80,025	369
King-fish					151,900	3,843
Lady-fish, fresh			495,800	6,450	697,800	11,945
Lady-fish, salted					700	21
Margate-fish					3,500	222
Menhaden	1,000	10			2,500	25
Moon-fish	800	24	2,800	56	10,628	814
Mullett, fresh	16,600	540	592,467	11,164	22,223,685	327,123
Mullett, salted			769,564	30,378	2,589,190	77,313
Mullett roe, salted			28,615	1,482	134,887	6,270
Mutton-fish					28,301	849
Permit					10,000	500
Pig-fish	500	15			2,000	60
Pike					175	9
Pompano	600	30	16,901	845	487,099	26,276
Porgy					70,960	3,548
Pork-fish					23,332	3,145
Sailor's choice					111,746	8,736
Sardines	1,000	10			29,600	998
Sea bass					9,800	123
Sheepshead	600	18	35,800	1,074	1,373,650	21,686
Snapper, red					8,074,066	237,423
Snappers, others	210	6			858,256	10,423

428 REPORT OF COMMISSIONER OF FISH AND FISHERIES.

Table showing, by counties and species, the yield of the fisheries of the west coast of Florida in 1902—Continued.

Species.	Walton.		Washington.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Spanish mackerel, fresh.....	30,600	\$918	223,145	\$8,981	1,432,356	\$55,908
Spanish mackerel, salted.....			30,500	1,220	40,550	1,622
Spot.....	800	16			14,250	300
Sturgeon.....					343,291	8,582
Caviar.....					6,691	3,026
Suckers.....					4,800	372
Sun-fish.....	450	23			15,100	646
Tang.....					200	10
Trout or squeteague, fresh.....	5,600	243	160,345	4,810	1,804,614	44,221
Trout or squeteague, salted.....			29,400	1,176	54,098	2,024
Trunk-fish.....					300	12
Turbot.....					850	66
Whiting.....					20,254	303
Yellow-tail.....	1,400	42			93,687	6,036
Other fish.....					400	16
Alligator hides.....			5,400	477	54,400	4,109
Clam.....					800	100
Conch.....					3,334	890
Crab, blue, hard.....					1,333	83
Crab, blue, soft.....					280	84
Crab, stone.....					11,681	1,728
Crawfish.....					55,664	3,232
Otter skins.....					356	1,015
Oyster.....			89,740	2,604	4,057,107	124,108
Shrimp.....					17,280	288
Sponges:						
Boat.....					2,455	1,473
Glove.....					7,365	1,111
Grass.....					140,682	29,765
Sheepswool.....					133,518	297,727
Velvet.....					5,852	3,187
Yellow.....					56,787	81,118
Wire, etc.....					230	46
Terrapin.....					30,899	4,227
Tortoise-shell.....					495	1,732
Turtle.....	400	16			369,257	28,385
Turtle eggs.....					600	99
Total.....	115,960	2,805	2,570,337	78,223	48,120,019	1,462,166

FISHERIES BY APPARATUS.

Vessel fisheries.—Ten counties participated in the vessel fisheries, the products being secured with purse and haul seines, gill nets (principally for turtles), lines, spears, sponge apparatus, and oyster tongs. More than four-fifths of the total catch was made with lines, and of this 7,969,936 pounds, valued at \$234,266, consisted of red snappers. Groupers and king-fish were the other principal species. In the seine catch Spanish mackerel occupy first place, and most of these were taken with purse seines in Hawks Channel, on the east coast, during January and February. Most of the gill nets were employed in the turtle fishery of Monroe County. Many of the vessels operating from here visit the coasts of Yucatan, Mexico, and Honduras, and engage in the fishery there. The sponge fishery is prosecuted from Franklin, Hillsboro, Levy, Monroe, and Pasco counties, with Monroe far in the lead. The tong fishery for oysters is most important in Franklin County, but is also prosecuted from Citrus, Hillsboro, and Washington counties. It shows a very considerable decrease, however. Spearing was practiced in but one county, Monroe, and was insignificant.

Shore fisheries.—The gill net is by far the most important form of apparatus in use in the shore fisheries, and the mullet is the principal species thus sought. Of the 22,896,192 pounds, valued at \$426,370, taken in gill nets, 18,979,124 pounds, worth \$322,522, consisted of mullet. The sea trout occupied second place in quantity and was third in value; the pompano was second in value. Other leading species were sheepshead, channel bass, Spanish mackerel, and sturgeon.

The seine catch has fallen off somewhat in recent years owing to the more general use of gill nets and stop nets. A number of seines are used in connection with the latter fishery, but as they are secondary in importance their value and catch have been shown with the stop nets. The mullet is again the leading species, although not to the same extent as in the gill-net fisheries. Other important species were Spanish mackerel, sea trout, lady-fish, and blue-fish.

While the stop-net fisheries ranked third in quantity of products secured, the tong fisheries exceeded them in the value of the catch. Mullet, sheepshead, sea trout, and channel bass were the principal species taken in the stop-net fishery.

The line fisheries have declined considerably in recent years, the fishermen devoting more of their time to fishing with other forms of apparatus. There is still an important line fishery in Monroe County, because of the difficulty of operating nets around Key West, where they are torn on the coral growths.

Trammel-net fishing was prosecuted from Escambia, Hillsboro, Santa Rosa, and Walton counties. In 1897, at the time of the last canvass, trammel nets were not used.

The cast-net and trap-net fisheries were not of much importance, the former being carried on from Escambia, Franklin, Hillsboro, and Monroe counties, and the latter from Franklin and Monroe counties. In the last-named county traps are a rather important form of apparatus.

Sponging was carried on from Franklin, Hillsboro, and Monroe counties, the last-named far outstripping the others.

A number of minor forms of apparatus were also used, the more important being guns, traps, dip nets, and fyke nets.

Table showing, by counties and apparatus, the yield of the vessel fisheries of the west coast of Florida.

Apparatus and species.	Citrus.		De Soto.		Escambia.		Franklin.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
<i>Selnes:</i>								
Blue-fish					298	\$6		
Channel bass					19	1	88,800	\$1,666
Mullet					5,920	55	30,600	622
Pompano					748	47	2,400	112
Sheepshead					305	24	6,000	225
Spanish mackerel			616,400	\$21,574	37,828	1,412	6,000	290
Trout, or squeteague					16,228	538	81,648	2,447
Total			616,400	21,574	69,841	2,078	209,843	5,262

480 REPORT OF COMMISSIONER OF FISH AND FISHERIES.

Table showing, by counties and apparatus, the yield of the vessel fisheries of the west coast of Florida—Continued.

Apparatus and species.	Citrus.		De Soto.		Escambia.		Franklin.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Gill nets:							80,590	\$920
Mullet, salted.....							1,250	50
Mullet roe, salted.....							1,400	42
Trout, or squeteague.....								
Total.....							33,240	1,012
Lines:								
Amber-fish.....							100	2
Bonito.....							200	8
Groupers.....					222,889	\$2,419	2,500	50
King-fish.....							200	10
Snapper, red.....					6,999,886	206,921	4,000	200
Total.....					7,222,764	209,340	7,000	270
Sponge apparatus:								
Grass sponge.....							2,595	545
Sheep's-wool sponge.....							2,126	5,738
Yellow sponge.....							854	470
Total.....							5,575	6,753
Tongs:								
Oyster.....	4,800	\$150					251,650	6,709
Grand total.....	4,800	150	616,400	\$21,574	7,282,696	211,418	507,308	20,006

Apparatus and species.	Hillsboro.		Levy.		Monroe.		Pasco.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Gill nets:								
Tortoise shell.....					60	\$210		
Turtle.....					212,876	16,442		
Turtle eggs.....					200	33		
Total.....					213,136	16,685		
Lines:								
Amber-fish.....					5,900	148		
Barracuda.....					700	25		
Blue-fish.....					200	10		
Bonito.....					1,800	90		
Crevalle.....					50	1		
Groupers.....	48,400	\$502			8,600	108		
Grunts.....					8,000	400		
Hog-fish.....					1,900	95		
King-fish.....					27,000	675		
Mutton-fish.....					800	24		
Permit.....					100	5		
Pompano.....					200	30		
Porgy.....					1,700	85		
Pork-fish.....					390	31		
Snapper, red.....	842,500	23,651			2,000	50		
Snappers, other.....					1,500	90		
Spanish mackerel.....					5,250	263		
Yellow-tail.....					4,000	280		
Total.....	890,900	24,153			65,090	2,410		
Spears:								
Angel-fish.....					400	20		
Barracuda.....					600	18		
Crawfish.....					600	34		
Total.....					1,600	72		
Sponge apparatus:								
Glove sponge.....					1,473	222		
Grass sponge.....	11,617	2,418			59,021	12,568	1,543	\$324
Sheep's-wool sponge.....	7,069	19,087	242	\$658	65,282	151,233	664	1,795
Velvet sponge.....					5,852	3,187		
Yellow sponge.....	1,552	853	15	8	24,445	13,404	203	90
Total.....	20,138	22,858	257	661	156,058	180,584	2,410	2,209
Tongs:								
Oyster.....	14,420	832						
Grand total.....	925,458	47,343	257	661	435,879	199,751	2,410	2,209

Table showing, by counties and apparatus, the yield of the vessel fisheries of the west coast of Florida—Continued.

Apparatus and species.	Santa Rosa.		Washington.		Total.	
	>Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Seines:						
Angel-fish			210	\$4	210	\$4
Black bass	30	\$1			30	1
Blue-fish	873	48	3,750	118	4,616	162
Channel bass	1,200	86			84,519	1,703
Flounders			500	10	500	10
Lady-fish, fresh	10,000	100	12,500	188	22,500	288
Lady-fish, salted	700	21			700	21
Moon-fish	100	2	800	6	400	8
Mullet	7,978	224	3,600	72	48,098	878
Pompano	506	16	1,000	50	4,654	225
Sheepshead	800	32	2,700	81	9,805	362
Spanish mackerel	4,692	169	10,100	404	674,620	28,849
Trout, or squeteague	2,834	92	5,245	157	104,350	3,229
Total	29,213	786	39,905	1,085	955,202	80,735
Gill nets:						
Mullet, fresh			4,100	82	4,100	82
Mullet, salted			12,000	380	42,580	1,280
Mullet roe, salted			300	15	1,550	65
Tortoise shell					50	210
Turtle					212,876	16,442
Turtle eggs					300	38
Trout, or squeteague			1,700	51	3,100	93
Total			18,100	508	264,476	18,205
Lines:						
Amber-fish					6,000	150
Barracuda					700	25
Blue-fish					200	10
Bonito					2,000	98
Crevalle					50	1
Groupers	11,525	115			288,894	3,194
Grunts					8,000	400
Hog-fish					1,900	95
King-fish					27,200	685
Mutton-fish					800	24
Permit					100	5
Pompano					200	30
Porgy					1,700	85
Pork-fish					390	31
Snapper, red	121,551	3,444			7,969,936	234,266
Snappers, other					1,500	90
Spanish mackerel					5,250	263
Yellow-tail					4,000	230
Total	133,076	3,559			8,318,820	289,782
Spears:						
Angel-fish					400	20
Barracuda					600	18
Crawfish					600	34
Total					1,600	72
Sponge apparatus:						
Glove sponge					1,473	222
Grass sponge					74,676	15,865
Sheeps-wool sponge					75,263	178,476
Velvet sponge					5,352	3,187
Yellow sponge					27,069	14,825
Total					184,483	212,565
Tongs:						
Oyster			12,250	350	283,120	8,041
Grand total	162,289	4,295	70,255	1,948	10,007,651	509,350

432 REPORT OF COMMISSIONER OF FISH AND FISHERIES.

Table showing the yield of the shore seine fisheries of the west coast of Florida in 1902.

Species.	Calhoun.		Escambia.		Franklin.		Hillsboro.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Angel-fish			8,090	\$62	375	\$10	900	\$14
Blue-fish, fresh	8,200	\$246	114,500	4,170	8,190	169	5,100	123
Butter-fish					300	8	784	11
Channel bass	300	6	6,042	252	28,284	522	11,439	172
Crevalle			20,000	200	150	3	300	5
Drum					325	10	1,590	24
Flounders	1,200	24	2,170	73	4,300	104	1,320	34
German carp					675	13		
Jurel			16,000	160	50	1		
Lady-fish	60,000	900	12,000	140				
Menhaden			1,500	15				
Moon-fish			4,275	132				
Mullet, fresh	23,500	2,340	18,300	570	351,500	4,718	375,808	3,370
Mullet, salted	28,600	800			408,890	13,128	5,000	100
Mullet roe, salted	1,600	64			12,350	587		
Pig-fish			1,500	45				
Pompano	5,541	277	1,700	94	6,960	301	3,000	180
Sardines			1,800	8				
Sheepshead	4,200	126	1,200	36	7,200	163	5,865	88
Snappers, gray, etc.			200	6			520	8
Spanish mackerel, fresh	52,780	2,111	92,000	2,760	14,680	686	16,133	807
Spot			2,900	61				
Trout or squeteague, fresh	28,500	705	2,950	148	72,100	1,938	76,000	1,900
Trout or squeteague, salted	2,660	80			13,278	444		
Whiting					200	2	880	13
Yellow-tail			4,300	129				
Shrimp					17,280	288		
Terrapin					200	4		
Total	210,081	7,679	305,427	9,061	946,287	22,989	504,589	6,854

Species.	Manatee.		Monroe.		Santa Rosa.		Wakulla.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Amber-fish			1,000	\$25	150	\$3		
Angel-fish	2,731	\$34						
Black bass					400	20		
Blue-fish, fresh			1,800	65	8,000	160		
Channel bass	30,000	375			800	40	13,800	\$266
Drum	6,100	77						
Flounders					200	6	8,050	61
Groupers			28,500	855				
Grunts			58,900	2,946				
Hound-fish			6,000	360				
Lady-fish			110,000	4,200	10,000	150		
Moon-fish			2,000	80	270	8		
Mullet, fresh	494,000	4,940	20,000	600	10,900	408	264,875	5,288
Mullet, salted	150,000	2,000						
Mullet roe, salted	10,962	438						
Pike					175	9		
Pompano	300	18	4,000	600				
Porgy			3,200	160				
Fork-fish			300	24				
Ballor's choice			48,000	1,440				
Sardines			9,800	480				
Sheepshead	11,300	141	150	8				
Snappers, gray, etc.			25,200	1,512				
Spanish mackerel, fresh	12,400	620	8,915	446			2,685	54
Spot					300	6		
Sun-fish					500	25		
Trout or squeteague, fresh	93,625	2,338			2,800	140	15,200	304
Whiting	1,680	21						
Yellow-tail	1,200	16	1,000	70	100	3		
Crawfish			14,664	1,222				
Terrapin					540	5		
Total	814,208	11,018	342,929	15,092	35,135	983	298,610	5,978

Table showing the yield of the shore seine fisheries of the west coast of Florida in 1902—
Continued.

Species.	Walton.		Washington.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Amber-fish.....					1,150	\$28
Angel-fish.....	500	\$10	2,400	\$48	9,996	178
Black bass.....					400	20
Blue-fish, fresh.....	37,000	615	66,100	1,953	247,390	7,566
Blue-fish, salted.....			3,000	120	3,000	120
Butter-fish.....					1,034	14
Channel bass.....	1,600	48	6,000	120	97,715	1,801
Crevalle.....	6,500	65			26,950	278
Drum.....			8,900	178	8,615	111
Flounders.....	500	15			21,640	495
German carp.....					675	18
Groupers.....					28,500	855
Grunts.....					58,900	2,945
Hound-fish.....					6,000	360
Jurel.....	8,200	86			24,760	257
Lady-fish.....			500	10	674,800	11,652
Menhaden.....	1,000	10	482,800	6,282	2,500	25
Moon-fish.....	800	24	2,500	50	9,845	294
Mullet, fresh.....	5,000	150	463,000	8,800	2,026,383	81,184
Mullet, salted.....			104,500	4,180	694,490	20,208
Mullet roe, salted.....			9,850	493	34,782	1,582
Pig-fish.....	500	15			2,000	60
Pike.....					175	9
Pompano.....	600	30	15,901	795	37,002	2,295
Porgy.....					8,200	160
Pork-fish.....					800	24
Sailor's choice.....					48,000	1,440
Sardines.....	1,000	10			11,600	498
Sheepshead.....	600	18	33,100	998	63,615	1,573
Snappers, gray, etc.....	210	6			26,180	1,582
Spanish mackerel, fresh.....	30,600	918	213,045	8,577	443,188	16,879
Spanish mackerel, salted.....			30,500	1,220	30,500	1,220
Spot.....	800	16			4,000	83
Sun-fish.....					500	25
Trout or squeteague, fresh.....	900	45	188,500	4,005	420,475	11,513
Trout or squeteague, salted.....			21,400	866	87,338	1,390
Whiting.....					2,770	86
Yellow-tail.....	1,400	42			8,000	260
Crawfish.....					14,664	1,222
Shrimp.....					17,280	288
Terrapin.....					740	79
Turtle.....	400	16			400	16
Total.....	98,110	2,139	1,595,996	88,660	5,161,822	120,448

Table showing the yield of the shore gill-net fisheries of the west coast of Florida in 1902.

Species.	Calhoun.		Citrus.		De Soto.		Escambia.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Angel-fish.....			800	\$16	2,700	\$34		
Black bass.....			750	19				
Blue-fish.....					5,000	100	8,700	\$104
Channel bass.....			68,100	1,805	90,000	1,150		
Crevalle.....			900	15				
Drum.....			21,950	424	10,000	125		
Mullet, fresh.....	54,000	\$810	1,015,000	17,398	1,176,166	11,752		
Mullet, salted.....	156,000	4,680	27,000	540				
Mullet roe, salted.....	2,400	96	700	28				
Pompano.....			400	82	15,000	600		
Sheepshead.....			129,800	2,659	108,146	1,289		
Snappers, gray, etc.....			113,909	2,200	18,000	225		
Spanish mackerel, fresh.....			1,000	60	8,000	400		
Sturgeon.....							81,825	906
Caviar.....							269,171	4,326
Sun-fish.....			500	10			3,491	1,753
Trout or squeteague, fresh.....	10,200	306	157,944	3,092	100,787	2,016		
Whiting.....					2,000	25		
Turtle.....							80	2
Total.....	222,600	5,892	1,538,753	27,807	1,629,799	17,716	801,267	7,091

434 REPORT OF COMMISSIONER OF FISH AND FISHERIES.

Table showing the yield of the shore gill-net fisheries of the west coast of Florida in 1902—Continued.

Species.	Franklin.		Hernando.		Hillsboro.		Lafayette.		Lee.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Angel-fish.....			110	\$2	1,600	\$25			5,000	\$63
Blue-fish.....			100	2	3,400	86			7,100	142
Butter-fish.....					1,146	17				
Channel bass.....	4,500	\$90	16,000	240	24,313	381			78,000	975
Crevalle.....			500	8	880	6				
Drum.....			3,700	55	4,440	67			5,800	110
Mullet, fresh.....	730,700	9,798	127,000	2,540	1,633,176	16,036	640,000	\$12,800	2,520,304	25,203
Mullet, salted.....	118,190	3,888	48,000	960	106,487	4,284	140,000	4,200	72,000	1,050
Mullet roe, salted.....	3,450	167	5,000	250	7,250	278	13,800	690	4,500	270
Pompano.....					41,886	2,508			137,176	5,487
Sheepshead.....	1,000	30	4,200	126	33,028	495			340,000	3,000
Snappers, gray, etc.....			7,000	140	10,940	165			12,000	150
Spanish mackerel, fresh.....	4,600	184			44,941	2,276			48,706	2,435
Spanish mackerel, salted.....	10,050	402								
Sturgeon.....	74,120	3,706								
Caviar.....	1,950	1,073								
Trout or squeteague, fresh.....	8,550	257	12,000	240	61,610	1,560			223,970	4,479
Trout or squeteague, salted.....	8,760	324								
Whiting.....					100	2			2,000	25
Terrapin.....					600	50				
Turtle.....	800	56								
Total.....	966,670	19,975	223,610	4,563	2,035,295	28,236	793,800	17,690	3,359,550	43,889

Species.	Levy.		Manatee.		Monroe.		Pasco.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Angel-fish.....	4,000	\$60	13,610	\$169			280	\$6
Blue-fish.....	25,900	1,166	20,400	408			6,900	267
Channel bass.....	88,667	1,333	175,444	2,194			13,500	208
Crevalle.....	13,300	201					1,185	19
Drum.....	49,100	737	48,200	602			3,000	45
Lady-fish.....					500	\$5		
Mullet, fresh.....	4,269,448	85,389	1,720,000	17,200	90,000	2,700	797,528	16,551
Mullet, salted.....	25,000	750	225,369	3,005				
Mullet roe, salted.....	1,200	60	23,010	920				
Pompano.....	2,174	174	225,650	13,539			410	23
Sheepshead.....	95,219	2,857	105,810	1,323			11,700	341
Snappers, gray, etc.....	60,483	1,432	27,700	346			10,600	212
Spanish mackerel, fresh.....	10,126	608	135,060	6,753			4,890	294
Sturgeon.....	10,000	600						
Caviar.....	250	200						
Trout or squeteague, fresh.....	103,141	2,779	219,650	5,491			38,000	760
Whiting.....	200	3	5,784	72				
Yellow-tail.....			800	10				
Terrapin.....			450	38				
Turtle.....	29,908	2,800						
Total.....	4,788,066	101,049	2,946,937	52,070	90,500	2,705	887,993	17,721

Species.	Taylor.		Wakulla.		Washington.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Angel-fish.....							23,100	\$375
Black bass.....							750	19
Blue-fish.....							75,600	2,276
Butter-fish.....							1,146	17
Channel bass.....			3,000	\$60			561,524	7,931
Crevalle.....							16,265	249
Drum.....							149,190	2,165
Lady-fish.....							500	5
Mullet, fresh.....	1,503,100	\$30,062	681,250	12,625	121,787	\$2,210	17,028,439	262,074
Mullet, salted.....	221,000	6,630			658,064	25,893	1,852,110	55,825
Mullet roe, salted.....	18,800	940			18,465	924	98,575	4,823
Pompano.....							422,696	22,363
Sheepshead.....	8,000	160					731,901	12,280
Snappers, gray, etc.....							260,582	4,879
Spanish mackerel, fresh.....							289,148	13,916
Spanish mackerel, salted.....							10,050	402
Sturgeon.....							343,231	8,532
Caviar.....							5,691	3,026
Sun-fish.....							600	10
Trout or squeteague, fresh.....	5,000	100			19,900	597	960,752	21,677
Trout or squeteague, salted.....					8,000	320	18,780	644
Whiting.....							10,084	127
Yellow-tail.....							800	10
Terrapin.....							1,050	88
Turtle.....							30,788	2,858
Total.....	1,755,900	37,892	684,250	12,685	821,196	29,889	22,896,192	426,370

Table showing the yield of the shore stop-net fisheries of the west coast of Florida in 1902.

Species.	De Soto.		Hernando.		Hillsboro.		Lee.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Angel-fish	1,000	\$18			2,210	\$38	2,800	\$85
Blue-fish					800	15		
Butter-fish					990	15		
Channel bass	87,829	467			57,892	868	55,000	1,063
Crevalle					200	8		
Drum	4,100	52			4,020	61	10,000	125
Flounders					1,914	45		
Mullet	375,054	3,761	41,100	\$822	820,904	3,110	1,388,797	13,888
Pompano					4,815	271		
Sailor's choice	3,000	40			200	3	5,000	68
Sheepshead	55,992	700			84,806	1,273	159,981	2,000
Snappers, gray, etc					8,960	59		
Spanish mackerel					600	30		
Sun-fish	800	12						
Whiting	1,000	15			400	6	2,000	25
Yellow-tail	657	8					1,200	15
Trout or squeteague	25,000	500			35,132	879	75,000	1,600
Terrapin					1,800	150		
Total	508,982	5,558	41,100	822	520,418	6,821	1,679,778	18,214

Species.	Levy.		Manatee.		Pasco.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Angel-fish			3,100	\$89			9,110	\$120
Blue-fish							600	15
Butter-fish							960	15
Channel bass			164,000	2,050			844,321	4,448
Crevalle							200	8
Drum			10,900	212			35,020	450
Flounders			1,100	22			8,014	67
Mullet	40,000	\$800	892,410	8,924	21,000	\$420	8,028,285	81,215
Pompano			1,171	15			4,815	271
Sailor's choice			262,100	8,402			9,871	121
Sheepshead							562,879	7,375
Snappers, gray, etc							3,960	59
Spanish mackerel							600	80
Sun-fish							800	12
Whiting			3,500	44			6,900	90
Yellow-tail			1,200	15			3,067	38
Trout or squeteague			168,000	4,075			298,132	6,954
Terrapin			2,250	188			4,050	388
Total	40,000	800	1,510,781	18,986	21,000	420	4,816,954	51,621

Table showing the yield of the shore trammel-net fisheries of the west coast of Florida in 1902.

Species.	Escambia.		Hillsboro.		Santa Rosa.		Walton.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Angel-fish	1,450	\$29							1,450	\$29
Black bass	1,200	60			700	\$35	1,100	\$55	3,000	150
Blue-fish	5,700	104	1,200	\$30	8,000	60			9,900	194
Channel bass	4,305	178	7,687	115	200	8			12,172	301
Crevalle	5,000	55			1,700	17			6,700	72
Flounders		752							752	23
Jurel	3,490	38							3,490	38
Moon-fish		888							888	12
Mullet	12,700	881			2,000	60	11,600	890	26,300	831
Pompano	3,410	175	12,222	611	100	6			15,732	792
Sheepshead	657	21	3,918	59	180	5			4,750	85
Snappers, gray, etc	250	8							250	8
Spanish mackerel	700	21							700	21
Spot	8,700	174			400	8			9,100	182
Sun-fish	2,100	105					450	23	2,550	128
Trout or squeteague	6,900	845	4,155	104	700	35	4,700	198	16,455	682
Total	57,697	1,729	29,157	919	8,980	234	17,850	666	113,684	3,548

436 REPORT OF COMMISSIONER OF FISH AND FISHERIES.

Table showing the yield of the shore cast-net fisheries of the west coast of Florida in 1902.

Specie.	Escambia.		Franklin.		Hillsboro.		Monroe.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Channel bass.....					4,100	\$63			4,100	\$63
Drum.....					800	12			800	12
Flounders.....	175	85							175	5
Mullet.....	4,100	121	57,000	\$748					61,100	864
Sardines.....							18,000	\$500	18,000	500
Sheepshead.....					700	11			700	11
Snappers, mangrove, etc.....					2,000	80			2,000	80
Spot.....	1,000	20							1,000	20
Crawfish.....							20,700	1,150	20,700	1,150
Total.....	5,275	146	57,000	748	7,600	116	38,700	1,650	108,675	2,666

Table showing the yield of the shore trap-net fisheries of the west coast of Florida in 1902.

Specie.	Franklin.		Monroe.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Angel-fish.....			15,500	\$775	15,500	\$775
Cat-fish.....	50,000	\$1,000			50,000	1,000
Grouper.....			45,000	1,850	45,000	1,850
Grunt.....			48,000	2,400	48,000	2,400
Hog-fish.....			15,000	750	15,000	750
Jurel.....			200	10	200	10
Margate-fish.....			1,800	66	1,800	66
Porgy.....			9,180	459	9,180	459
Pork-fish.....			11,085	885	11,085	885
Sallor's choice.....			9,375	375	9,375	375
Snappers, grey, etc.....			22,500	1,850	22,500	1,850
Sun-fishes.....			1,500	75	1,500	75
Tang.....			200	10	200	10
Trunk-fish.....			300	12	300	12
Turbot.....			300	24	300	24
Yellow-tail.....			17,142	1,200	17,142	1,200
Crab, stone.....			3,214	225	3,214	225
Crawfish.....			12,500	500	12,500	500
Total.....	50,000	1,000	212,746	10,466	282,746	11,466

Table showing the yield of the shore line fisheries of the west coast of Florida in 1902.

Specie.	Citrus.		Escambia.		Franklin.		Hillsboro.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Black bass.....	6,500	\$165			2,000	\$100		
Cat-fish.....					15,000	300		
German carp.....					500	20		
Groupers.....			8,045	\$80			18,200	\$169
Grunts.....							17,300	254
King-fish.....							2,700	108
Sea bass.....							8,800	38
Snapper, red.....			91,830	2,783			8,100	324
Suckers.....					800	12		
Sun-fishes.....	4,100	82			2,950	118		
Trout, or squetengue.....			700	85				
Other fish.....					250	10		
Total.....	10,600	247	100,575	2,848	21,000	560	45,100	898

Table showing the yield of the shore line fisheries of the west coast of Florida in 1902—
Continued.

Specie.	Levy.		Monroe.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Amber-fish.....			34,600	\$865	34,600	\$865
Angel-fish.....			750	38	750	38
Barracuda.....			21,435	750	21,435	750
Black bass.....					8,500	265
Blue-fish.....			8,100	405	8,100	405
Bonito.....			8,100	405	8,100	405
Cat-fish.....	6,000	\$150			21,000	450
Crevalle.....			4,500	45	4,500	45
German carp.....					500	20
Groupers.....	500	8	52,850	1,623	74,685	1,880
Grunts.....	2,000	90	240,000	12,000	258,300	12,284
Hog-fish.....			48,230	2,391	48,230	2,391
Jirel.....			1,585	64	1,585	64
King-fish.....			122,000	8,050	124,700	3,158
Margate-fish.....			1,700	156	1,700	156
Mutton-fish.....			27,501	825	27,501	825
Permit.....			1,800	90	1,800	90
Pompano.....			2,000	300	2,000	300
Porgy.....			56,880	2,844	56,880	2,844
Pork-fish.....			11,607	2,205	11,607	2,205
Sallor's choice.....			45,000	1,800	45,000	1,800
Sea bass.....	6,000	90			9,800	128
Snapper, red.....			4,200	105	104,130	3,162
Snappers, other.....			41,334	2,480	41,334	2,480
Spanish mackerel.....			19,000	950	19,000	950
Spot.....			150	15	150	15
Buckers.....			4,500	360	4,800	372
Sun-fishes.....			2,200	196	9,250	896
Trout, or squeteague.....			650	38	1,350	68
Turbot.....			550	42	550	42
Whiting.....			500	50	500	50
Yellow-tail.....			60,688	4,248	60,688	4,248
Other fish.....			150	6	400	16
Total.....	14,500	278	822,720	38,841	1,014,495	43,167

Table showing the quantity and value of oysters taken with tongs in the shore fisheries of the west coast of Florida in 1902.

County.	Lbs.	Value.
Citrus.....	64,596	\$2,161
De Soto.....	90,650	4,887
Escambia.....	70,000	6,000
Franklin.....	2,498,160	68,588
Hillsboro.....	122,850	7,280
Levy.....	729,841	17,377
Santa Rosa.....	64,400	5,520
Wakulla.....	56,000	2,000
Washington.....	77,490	2,254
Total.....	3,773,987	116,037

Table showing the yield in the shore sponge fisheries of the west coast of Florida in 1902.

Specie.	Franklin.		Hillsboro.		Monroe.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Boat sponge.....					2,455	\$1,478	2,455	\$1,478
Glove sponge.....					5,892	859	5,892	859
Grass sponge.....					29,221	6,185	66,006	13,910
Sheepswool sponge.....	2,709	\$569	34,076	\$7,156	47,413	90,247	58,155	119,251
Yellow sponge.....	1,065	597	3,056	1,681	25,577	14,010	29,718	16,238
Wire sponge, etc.....					230	46	230	46
Total.....	4,588	3,810	47,080	35,697	110,788	112,860	162,456	151,857

438 REPORT OF COMMISSIONER OF FISH AND FISHERIES.

Table showing the catch by miscellaneous apparatus in the shore fisheries of the west coast of Florida in 1902.

Specie.	Citrus.		De Soto.		Escambia.		Franklin.		Hillsboro.		Lee.	
	Lbs.	Val.	Lbs.	Val.	Lbs.	Val.	Lbs.	Val.	Lbs.	Val.	Lbs.	Val.
Cat-fish					4,800	\$240						
Flounders							50,000	\$1,500				
Alligator hides	400	\$27	3,600	\$240			7,500	875			30,600	\$2,040
Crab, blue, hard					1,383	83						
Crab, blue, soft					280	84						
Crab, stone									800	\$40		
Otter skins	16	90	100	250							210	625
Terrapin			9,000	1,200			3,000	260				
Total	416	117	12,700	1,690	6,413	407	60,500	2,635	800	40	30,810	2,565

Specie.	Levy.		Monroe.		Wakulla.		Washington.		Total.	
	Lbs.	Val.	Lbs.	Val.	Lbs.	Val.	Lbs.	Val.	Lbs.	Val.
Angel-fish			6,000	\$300					6,000	\$300
Barracuda			11,700	410					11,700	410
Cat-fish									4,800	240
Flounders					4,100	\$82			54,100	1,682
Permit			8,100	405					8,100	405
Alligator hides	6,900	\$450					5,400	\$477	54,400	4,109
Clam	240	30	560	70					800	100
Conch			3,334	890					3,334	890
Crab, blue, hard									1,333	83
Crab, blue, soft									280	84
Crab, stone			7,667	1,534					8,467	1,574
Crawfish			7,200	376					7,200	376
Otter skins	80	150							356	1,015
Terrapin	10,800	1,800	2,259	532					25,059	8,792
Tortoise-shell			435	1,622					435	1,622
Turtle			125,193	9,069					125,193	9,069
Turtle eggs			400	66					400	66
Total	17,970	2,430	172,848	15,174	4,100	82	5,400	477	311,957	25,617

THE WHOLESALE TRADE.

In the wholesale trade in fishery products Hillsboro County leads, with Monroe second and De Soto third. In the two first-named counties the sponge-buying industry of Tarpon Springs and Key West form the principal part of the trade.

Table showing the extent of the wholesale trade in fishery products for the west coast of Florida in 1902.

Items.	Citrus.		De Soto.		Franklin.		Hillsboro.		Levy.		Monroe.		Total.	
	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.
Establishments	3	\$1,350	7	\$5,650	1	\$1,300	14	\$42,075	3	\$6,100	13	\$81,250	41	\$187,725
Cash capital		3,000		41,250		8,000		232,500		20,000		145,000		449,750
Ice used		1,638		13,580				8,850		1,740				25,788
Wages paid		1,750		17,664		4,000		80,459		6,550		15,208		75,628
Employees	10		42		11		95		25		65		248	

THE CANNING INDUSTRY.

There were 3 canneries in operation on the west coast of Florida in 1902, two for oysters and one for turtles. There is another cannery in this region—at Gulf City—but it was not operated in 1902, although it was in operation in 1903.

Items.	No.	Value.
Establishments	3	\$37,950
Cash capital		42,500
Wages paid		20,820
Employees	302	
Oysters utilized	285,000 busbels.	47,150
Green turtle utilized	317,000	9,510
Oysters as sold:		
1-pound cans	1,417,000	33,250
2-pound cans	154,400	17,980
Shucked	10,000 gallons.	8,500
Green turtle as sold:		
Turtle soup (2-pound cans)	240	72
Turtle soup (8-pound cans)	1,584	792
Turtle meat (2-pound cans)	8,120	2,340
Turtle meat (8 pound cans)	10,272	12,840

NOTES ON CERTAIN FISHERIES.

The mullet fishery.—This fishery is now in a prosperous condition, but in 1897, when the last canvass was made, it was greatly impaired, owing to interruption of the trade by the Cuban revolution. For many years the mullet fishermen have salted a large part of their catch and shipped it to Cuba, where it found a ready sale; but in 1896 this business was practically abandoned on account of the high tariff on fish imported into the island. After the war closed the mullet trade began to revive. The fishermen and dealers have recently been making an effort to increase their business, and have met with such success that there are now few places of importance south of North Carolina and the Ohio River, and east of the Mississippi River, to which Florida mullet are not shipped. Punta Gorda is especially noteworthy for the enterprise exhibited in this direction. A few years ago the shipments from there were insignificant, but in 1902 they amounted to 224½ carloads and 10,855 barrels of fish, with an approximate weight of 7,547,000 pounds, the greater part of which was mullet. The fish are shipped in carload lots to agents or dealers at certain points, who pack them in boxes and barrels and ship them to adjacent localities, this method resulting in a considerable saving in freight charges. In shipping mullet, an ordinary box car is used, having a partition across it at both sides of the doors, to form a compartment at each end of the car. Alternating layers of mullet and cracked ice are placed in these inclosures until the car contains a load of 24,000 pounds of fish.

Although fishing in state waters by foreign vessels is prohibited, at the present time Cuban vessels fish along the shores of the west coast of Florida, the sparse population and the general absence of revenue cutters making it easy to escape interruption. The Cuban

fishermen often fish in the bays, and sometimes even camp on the shores, in order to prepare their fish.

The following table gives the yield of the mullet fishery of the west coast of Florida in various years from 1879 to 1902:

Items.	1879.	1880.	1889.	1890.	1895.	1897.	1902.
	<i>Lbs.</i>	<i>Lbs.</i>	<i>Lbs.</i>	<i>Lbs.</i>	<i>Lbs.</i>	<i>Lbs.</i>	<i>Lbs.</i>
Mullet, fresh	1,058,083	.....	8,794,586	10,650,959	12,810,953	11,639,615	22,223,685
Mullet, salted	2,504,422	.....	2,723,785	2,968,254	5,714,184	2,503,703	2,539,190
Mullet, smoked .....	.....	.....	4,500	3,200	.....	.....	.....
Mullet roe, fresh .....	.....	.....	.....	.....	2,150	.....	.....
Mullet roe, salted	6,662	.....	244,080	298,549	299,061	143,999	134,837
Total	8,569,167	2,023,250	11,771,951	13,920,962	18,326,298	14,287,317	24,947,762

The oyster fishery.—But little attention has been given to the planting of oysters in this region, owing to the hostility displayed by a certain element among the oystermen. In 1902, 20,000 bushels were planted in East Bay, near Apalachicola, making the first planted bed of large size in this section. A few small areas were planted in Big Bayou, an arm of Tampa Bay, but the drought of 1902 killed most of them.

Two canneries were operated in Apalachicola in 1902, one of which, at Gulf City, was closed during that year, owing to the illness and subsequent death of the owner, but it was reopened in 1903.

The following is a summary of the catch of oysters for certain years:

	Bushels.	Value.
1889	294,871	\$75,189
1890	371,081	93,692
1895	170,518	46,308
1897	179,715	60,258
1902	543,687	117,399

Since 1895 the catch has shown a steady increase, and in 1902 it was larger than in any previous year for which statistics are available.

The red-snapper fishery.—While this fishery still centers at Pensacola, it is becoming quite important at Tampa, and is also prosecuted incidentally at St. Petersburg, Apalachicola, and Key West. The catch in Santa Rosa County is virtually a part of the Pensacola industry, as the vessels and boats sail from there, and the catch is sold to the Pensacola dealers.

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

Year.	Lbs.	Value.
1889	8,469,370	\$105,557
1890	4,172,942	123,799
1895	4,886,896	154,686
1897	5,814,487	171,284
1902	8,074,066	287,428

These figures indicate that the fishery is steadily increasing in importance. The catch in 1902 would have been even larger had it not been for a strike on the part of the Fishermen's Union at Pensacola, which lasted from November 27, 1901, to January 18, 1902. The first vessel to land fish came in on February 3. One Pensacola vessel—the schooner *Contest*—was lost in February on her first trip of the season.

Groupers are also taken in this fishery, being found on the banks in company with the red snappers, but as the fishermen receive only 1 cent a pound for them, not many are brought in.

The sponge fishery.—This industry, which centers largely at Key West and Tarpon Springs, is prosecuted exclusively in Florida, and is one of the most important in the state. It has fluctuated considerably in recent years, however, and, as a whole, seems to be on the decline. The season of 1902 was an especially poor one, although a larger fleet of vessels and boats was engaged than in many previous years.

The following table shows the catch in this fishery for certain years:

Kinds.	1880.		1889.		1890.		1895.		1896.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Sheepswool							231,272	\$363,107	149,724	\$248,196
Yellow							29,509	11,798	23,655	9,318
Grass							21,387	5,464	44,617	11,508
Other							23,952	6,502	18,315	3,990
Total	207,000	\$200,750	316,569	\$381,087	366,772	\$438,682	306,120	386,871	236,811	278,012

Kinds.	1897.		1899.		1900.		1901.		1902.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Sheepswool	157,476	\$240,599	168,700	\$332,390	181,811	\$483,268	202,678	\$422,561	133,518	\$297,727
Yellow	82,362	13,082	65,800	16,205	74,466	44,045	62,512	39,290	56,787	81,113
Grass	128,622	29,188	76,900	14,819	148,112	85,263	108,748	24,210	140,682	29,765
Other	13,086	3,171	18,000	5,000	19,236	7,114	21,627	6,679	15,902	5,817
Total	381,546	286,040	304,400	367,914	418,125	567,685	395,560	492,740	346,889	364,422

The following table is interesting as showing the average price per pound received by the spongers for each variety of sponge for a series of years, and also the general average price for all grades. The year 1900 seems to have been the banner year for most varieties, and the

general average is also highest for that year. For 1902 it is the lowest shown, except for 1897. The price of yellow sponges fell considerably as compared with 1901, when quite a demand arose in railroad shops, etc., for this variety to take the place of sheepswool sponges. It was soon found that they would not answer the purpose, and as the buyers had secured a large supply in anticipation of the market, a glut resulted which caused the price to decline.

Kinds.	Average price per pound.						
	1895.	1896.	1897.	1899.	1900.	1901.	1902.
Sheepswool.....	\$1.57	\$1.66	\$1.63	\$2.16	\$2.67	\$2.08	\$2.23
Yellow.....	.39	.40	.40	.29	.59	.68	.56
Grass.....	.26	.26	.23	.19	.23	.22	.21
Other.....	.27	.22	.24	.28	.37	.31	.37
Average.....	1.26	1.16	.86	1.21	1.88	1.25	1.05

The season of 1900 was especially good for the sponge trade, owing to the unusual clearness of the water, which permitted sponging on nearly every ground. The reverse was the case in 1902, and, in the spring, the spongers had to work on the "Bay" or "Gulf" grounds in from 50 to 60 feet of water, on what is known as the "Middle Bank." The "hookers," or men who handle the sponge hook, found this occupation so fatiguing that a number of them discontinued work on account of it, and as the supply of "hookers" is limited, the yield of sponges was correspondingly smaller. The sponges gathered in this depth were very large and of a fine quality, but at the time for marketing it was found that they could not be cut into very profitable sizes. The sponging on the "Key" grounds was very poor, owing to bad water and other causes. In January, February, and March the spongers found clear water on what is known as the "New Grounds," in the western part of the "Key" region, between Key West and Cape Sable. Most of the sponging here was done in from 12 to 18 feet of water, an unusual depth for this locality.

During the early part of 1902, at the season when the sponge vessels are generally laid up on account of bad weather in the "Bay," several Key West vessel owners undertook a trip to the Bahama Banks. These grounds are frequented by Bahaman spongers, but as they are 30 miles from the islands no interference from the colonial authorities was anticipated. On the arrival of the first Key West vessel, however, her captain was arrested and imprisoned in Nassau until the payment of a fine of \$50, in view of which discouragement the rest of the vessels abandoned the enterprise.

The business of buying and preparing sponges for market is entirely separate and distinct from that of gathering them. The buyers, who represent wholesale firms in New York, Philadelphia, and St. Louis, have large warehouses in which the sponges receive their final clean-

ing and trimming and are baled for shipment. For many years Key West had almost a monopoly of this feature of the industry. Apalachicola and St. Marks dealt in sponges to a limited extent, but the first serious competitor with Key West was Tarpon Springs, where buying began in 1891. The sponge business rapidly expanded here until in 1901 it exceeded that of Key West by about \$70,000, while in 1902 the excess was much greater. The "Bay" spongers find it much more convenient to sell at Tarpon Springs than at Key West, while the latter point is naturally the market for the "Key" spongers.

The sturgeon fishery.—At the time of the last general canvass of the fisheries of the gulf coast (1897), sturgeon were caught in but one county—Levy—and the catch in that year amounted to 9,254 pounds, valued at \$331. These were all taken on the Suwanee River. No caviar was put up. When this fishery was canvassed for the year 1900 a considerable increase in its importance was noted. Fishing was prosecuted in the Suwanee, the Ocklocknee, and the Apalachicola rivers, the total yield being 165,500 pounds round weight, which sold for \$9,786, while 4,270 pounds of caviar were prepared and sold for \$3,115. During 1902 fishing was prosecuted in the Suwanee, the Ocklocknee, the Apalachicola, and in the Choctawatchee Bay and River, in Escambia Bay and River, and in Blackwater River. The new regions were first worked in 1901, and are at present the most prolific. The product in 1902 amounted to 343,291 pounds of sturgeon, valued at \$8,532, and 5,691 pounds of caviar, valued at \$3,026.

The turtle fishery.—This fishery is gradually becoming concentrated at Key West, in Monroe County. Quite a fleet of vessels engage in it, and fish not only on the Florida coast but also on the Honduras, Yucatan, and Mexican coasts. Three species, the green, the loggerhead, and the hawksbill are taken. The green turtle is the most sought after for food; the hawksbill furnishes the tortoise shell of commerce. The following table shows the extent of this fishery for a series of years:

Counties.	1880.	1889.	1890.	1895.	1897.	1902.
	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.
De Soto			4,000			80
Escambia		100	2,250	3,850	2,144	800
Franklin		11,735	12,004	5,000		
Hillsboro		3,600	8,000	4,375		
Lee		70,705	89,958	107,610	85,000	29,908
Levy		60,665	60,665			
Manatee		291,095	297,167	410,142	546,762	339,164
Monroe		740	7,000		720	
Santa Rosa						400
Walton		740				
Washington						
Total.....	180,000	439,880	476,034	530,977	634,616	370,862

FISHERIES OF ALABAMA.

The coast fisheries of Alabama are prosecuted chiefly in Mobile Bay, Mississippi Sound, and the Gulf of Mexico. The only counties of the state located on the coast are Mobile County on the west and Baldwin County on the east of Mobile Bay.

The principal fishing center and distributing point for fishery products is the city of Mobile, on the west side of the bay. There are a number of smaller fishing localities along the coast, the more important of these being Bayou Labatre, Coden, and Dauphin Island in Mobile County, and Bon Secour and Daphne in Baldwin County.

The species taken in largest quantities in the fisheries of this state are oysters, red snappers, groupers, mullet, trout or squeteague, sturgeon, buffalo-fish, cat-fish, hard crabs, sheepshead, channel bass or red-fish, spots, croakers, black bass, flounders, and Spanish mackerel.

Oysters.—The natural oyster reefs of Alabama have been so thoroughly worked that many of the oystermen have for some years been turning their attention to oyster planting on private beds. This is particularly the case at Coden, Bayou Labatre, and Granite, in Mobile County, and at Bon Secour, Gasque, and Navy Cove, in Baldwin County. The seed oysters are taken mostly on the western side of the bay. No restriction is placed on the time of taking them, but they are usually secured during March, April, and May. The laws of Alabama allow oysters to be planted to a distance of 600 yards beyond low-water mark. They may be taken for market from the natural reefs at any time in the year, the fishermen being governed entirely by the demand, which is greatest from September 1 to April 15. Tongs are the only apparatus allowed in catching them. No oysters can be taken measuring less than 2½ inches from hinge to mouth, and the maximum quantity a single boat may take is 3,500 bushels per week. The vessels employed in transporting oysters from the grounds to market also engage more or less in oystering while waiting for a load. The greater part of the catch is taken to Mobile, but many are sold to transporting vessels from canneries in Mississippi. The prices ranged in 1902 from 40 cents paid by the Mississippi vessels, to 50 cents per barrel paid by those from Mobile. Oysters from the natural reefs on the western shore of Mobile Bay are called "western reefers," and those from the eastern side of the bay "eastern reefers."

Red snappers.—This fishery centers at Mobile, which in 1902 sent a fleet of seven vessels to the snapper banks. The prosecution of the industry has been pushed with much energy during recent years, and the number of vessels engaged, which vary in size from 24 to 60 net tons, is gradually increasing. Mobile vessels go as far east as Tampa, and westward to the coast of Mexico. The banks nearest to Mobile are about 10 miles from the mouth of the bay.

Snapper fishing is done in from 20 to 75 fathoms of water. The crew usually consists of from six to eight men, two men fishing from the vessel and the others from dories carrying two men each. This fishery is prosecuted practically during the entire year, except when the vessel is laid up for repairs. An average of three trips to the banks is made every two months, the aim being not to keep the fish longer than ten or twelve days after they are caught. Lady-fish and various other species are used for bait. On an average, a trip to the banks requires about \$15 worth of bait, and if successful the vessel will return with from 2,500 to 3,000 red snappers, weighing from 5 to 30 pounds each. Large numbers of groupers are also brought in with each trip, but they command a comparatively low price. In 1902 the fishermen received $3\frac{1}{2}$ cents per pound for snappers weighing 7 pounds and under, and 25 cents a piece for all others.

Other species.—Mullet forms a larger part of the products of the shore fisheries, in both weight and value, than any other species except oysters, and are also taken in considerable quantities in the vessel fisheries. The catch by vessels was 491,000 pounds, valued at \$6,745, and by boats in the shore fisheries, 1,055,300 pounds, valued at \$16,712. The principal apparatus employed for capture is the trammel net, but in the upper part of Mobile Bay, in shallow water, seines also are used. Trout, or squeteague, are quite abundant, the catch by vessels and boats aggregating 259,450 pounds, valued at \$10,586. This fish is caught with trammel nets, seines, and lines. The fishery for sturgeon, in which much activity has been shown recently, is prosecuted from Mobile and vicinity, the product amounting to 100,000 pounds of sturgeon, valued at \$3,930, and 5,000 pounds of caviar, valued at \$2,000. The catch was obtained chiefly in the Mobile River by vessels and boats with gill nets. The yield of buffalo-fish was 108,100 pounds, valued at \$2,251, and of cat-fish 150,750 pounds, valued at \$3,821. A large number of other species were taken in smaller quantities.

Apparatus.—The most important forms of apparatus employed in the fisheries of Alabama, as shown in the value of the catch, are tongs, dredges, lines, trammel nets, seines, and gill nets. Tongs are the only apparatus which can be legally used within the state for catching oysters. The oysters shown in the present statistics as being caught with dredges were taken by Alabama vessels in Mississippi waters.

Lines are employed in both the vessel and shore fisheries, but the principal part of the catch thus taken consists of red snappers obtained in the vessel fisheries. In the shore fisheries lines are used mainly by negroes from Mobile fishing in Mobile River just above the city. Line fishing is followed about nine months of the year. During three months in the spring the water is too muddy to admit of profitable fishing; the best catches are made in the winter. Trammel nets are used considerably in the vessel fisheries, but much more exten-

sively* by the small-boat fishermen, many of whom live in Mobile and vicinity. Seines also are used in both the vessel and shore fisheries, but principally in the latter. Gill nets are employed by vessels and boats in the capture of sturgeon.

In addition to the kinds of apparatus already referred to there are also a few minor appliances, among which are spears and nippers. Spears are used exclusively in catching flounders, which are taken at low tide, and only when the water is smooth. A fisherman will sometimes secure with a spear about 300 pounds of flounders in a night. Nippers are used in catching terrapin.

Persons engaged.—The total number of persons engaged in the fisheries of this state in 1902 was 1,098. Of this number 254 were employed on fishing vessels, 19 on transporting vessels, 441 in the shore fisheries, and 384 as shoresmen in wholesale fish establishments and shucking houses. Compared with 1897, the canvass for 1902 shows an increase of 309 men, or 39.16 per cent.

Investment.—The total amount of capital invested in the fisheries of this state in 1902 was \$328,285, against \$165,189 in 1897, an increase of \$163,096, or 98.73 per cent. The investment included 77 fishing and transporting vessels, having a value, with their outfits, of \$115,535; 317 boats in the shore fisheries valued at \$11,942; fishing apparatus on vessels and boats to the value of \$8,233; shore and accessory property valued at \$135,075; and cash capital utilized in the wholesale fishery trade amounting to \$57,500.

Products.—The products of the fisheries of Alabama in 1902 amounted to 9,351,447 pounds, having a value to the fishermen of \$266,682. As compared with the returns for 1897, there has been an increase of 4,652,066 pounds, or 98.99 per cent, in quantity, and \$132,244, or 98.14 per cent, in value. The increase was chiefly in the yield of the oyster, red snapper, and mullet fisheries.

The three tables which follow give, by counties, the number of persons employed, the amount of capital invested, and the quantity and value of the products of the fisheries of Alabama in 1902:

Table showing, by counties, the number of persons employed in the fisheries of Alabama in 1902.

How engaged.	Baldwin.	Mobile.	Total.
On vessels fishing	92	162	254
On vessels transporting	2	17	19
Boat or shore fishermen	94	347	441
Shoresmen		384	384
Total	188	910	1,098

Table showing, by counties, the vessels, boats, and apparatus employed in the fisheries of Alabama in 1902.

Items.	Baldwin.		Mobile.		Total.	
	No.	Value.	No.	Value.	No.	Value.
Vessels fishing	80	\$21,460	40	\$64,600	70	\$86,060
Tonnage	242		592		834	
Outfit		5,160		13,065		18,215
Vessels transporting	1	1,200	6	9,200	7	10,400
Tonnage	8		85		98	
Outfit		90		780		870
Boats	124	5,985	a 193	5,957	817	11,942
Apparatus—vessel fisheries:						
Seines	1	100	6	560	7	660
Trammel nets	19	635	4	200	23	835
Gill nets	4	80	4	120	8	200
Lines				650		650
Dredges	14	380	6	160	20	540
Tongs	60	359	75	420	135	779
Apparatus—shore fisheries:						
Seines	2	135	4	225	6	360
Trammel nets	46	885	55	1,020	101	1,905
Gill nets	3	60	8	240	11	300
Lines		29		131		160
Tongs	48	268	271	1,670	314	1,838
Nippers and spears		1		5		6
Shore and accessory property		300		134,775		135,075
Cash capital				57,600		57,600
Total		87,117		291,168		328,285

a Includes 1 gasoline boat, valued at \$700.

Table showing, by counties and species, the yield of the fisheries of Alabama in 1902.

Species.	Baldwin.		Mobile.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Black bass	11,900	\$1,010	24,150	\$2,208	36,050	\$3,218
Blue-fish	4,275	141	16,760	664	21,025	705
Buffalo-fish	85,000	700	73,100	1,161	108,100	2,251
Cat-fish	58,850	1,199	93,900	2,622	160,750	3,821
Channel bass or redfish	30,915	1,164	39,400	1,668	70,315	2,722
Crapple	2,150	107	9,300	650	11,450	757
Crevalle	2,125	85	8,250	48	5,375	78
Croaker	28,200	550	29,700	607	67,900	1,157
Drum, fresh-water	850	43	1,200	53	2,050	96
Drum, salt-water	3,110	55	1,800	37	4,910	82
Flounders	22,400	803	13,700	527	36,100	1,330
Groupers			636,000	6,850	636,000	6,850
Jew-fish			2,000	40	2,000	40
Jurel			200	4	200	4
King-fish			800	23	800	23
Lady-fish	725	12	650	11	1,375	33
Mangrove snapper	550	14			550	14
Menhaden			10,000	25	10,000	25
Moon-fish			800	10	800	10
Mullet	870,800	12,660	675,500	10,807	1,546,300	23,457
Pig-fish	6,150	109	12,800	240	18,950	349
Pike or pickerel	400	20	1,100	70	1,500	90
Pin-fish	7,900	128	4,600	86	12,500	209
Pompano	6,550	473	6,250	356	10,800	829
Red snapper			3,465,500	69,331	3,466,500	69,331
Sea bass	1,350	54	2,500	97	3,850	151
Shad	150	3			150	3
Sheepshead	22,850	815	52,700	2,005	75,050	2,820
Spade-fish	3,400	13	2,050	64	2,450	77
Spanish mackerel	3,600	137	80,050	1,148	33,650	1,285
Spot	25,450	419	38,400	616	63,850	1,035
Strawberry bass	2,550	127	12,400	880	14,950	1,007
Sturgeon	10,000	330	90,000	8,600	100,000	3,930
Caviar			5,000	2,000	5,000	2,000
Sun-fishes	3,600	178	13,600	940	17,200	1,118
Trout	99,250	4,161	160,200	6,425	259,450	10,586
Warmouth	4,000	193	14,200	962	18,200	1,155
Whiting	10,550	202	14,850	230	24,900	482
Yellow-tail	50	1	275	5	325	6
Shrimp	200	12			200	12
Crab, hard	9,850	258	65,400	1,960	a 75,230	2,218
Terrapin	4,450	105	6,020	1,808	b 6,470	1,913
Turtle	1,000	20	6,000	105	7,000	125
Oyster, natural	156,297	20,152	1,899,015	60,146	c 2,055,312	80,298
Oyster, planted	29,315	8,605	347,595	30,870	d 376,910	39,475
Total	1,470,242	64,993	7,881,205	211,689	9,351,447	266,682

a 225,690 in number.

b 3,597 in number.

c 293,616 bushels.

d 53,844 bushels.

VESSEL AND SHORE FISHERIES.

The yield of the vessel fisheries amounted to 5,199,802 pounds, valued at \$137,745. A very large proportion of this quantity consisted of red snappers and other species taken in the red-snapper fishery. In the shore fisheries the catch was 4,151,645 pounds, valued at \$128,937, considerably more than half of which was composed of oysters.

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

Table showing, by counties, apparatus, and species, the yield of the vessel fisheries of Alabama in 1902.

Apparatus and species.	Baldwin.		Mobile.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Seines:						
Blue-fish	3,200	\$105	14,150	\$491	17,350	\$596
Cat-fish	200	4	1,000	18	1,200	22
Channel bass or red-fish	1,500	52	10,900	462	12,400	514
Crevalle	200	4	850	15	1,050	19
Croaker	2,000	80	11,300	190	13,300	220
Drum, salt-water	150	3	950	17	1,100	20
Flounders	700	25	3,750	132	4,450	157
King-fish			700	20	700	20
Lady-fish			650	9	650	9
Mullet	32,000	400	174,000	2,890	206,000	2,790
Pig-fish	1,800	93	9,700	187	11,500	220
Pin-fish	200	4	950	17	1,150	21
Pompano	200	7	1,050	103	1,250	121
Sea bass	200	7	950	89	1,150	-46
Sheepshead	6,500	165	37,500	1,400	44,000	1,565
Spade-fish	200	8	950	80	1,150	88
Spanish mackerel	3,200	115	29,700	1,128	32,900	1,248
Spot	8,400	52	25,500	403	29,000	455
Trout	10,000	850	59,800	2,431	69,800	2,781
Whiting	400	8	1,950	88	2,350	46
Yellow-tail			275	5	275	6
Turtle	1,000	20	4,000	80	5,000	100
Total	67,050	1,898	390,075	9,605	457,125	11,008
Trammel nets:						
Blue-fish	1,025	34	650	22	1,675	56
Cat-fish	10,800	197	2,600	50	13,400	247
Channel bass or red-fish	22,400	838	11,800	458	33,700	1,289
Crevalle	450	8			450	8
Croaker	12,200	199	2,600	45	14,800	244
Drum, salt-water	1,500	25	650	12	2,150	37
Flounders	7,800	311	1,900	79	9,700	390
King-fish			100	8	100	8
Lady-fish	350	6	100	2	450	8
Mangrove snapper	50	1			50	1
Mullet	201,000	2,780	84,000	1,175	285,000	8,955
Pig-fish	3,500	60	2,400	45	5,900	105
Pin-fish	5,700	88	2,600	48	8,300	131
Pompano	5,000	435	3,250	185	8,200	620
Sea bass	1,000	40	650	26	1,650	66
Sheepshead	9,000	348	8,900	160	12,900	508
Spot	12,250	197	2,600	48	14,850	245
Trout	22,400	822	8,400	325	30,800	1,147
Whiting	5,150	83	2,600	55	7,750	188
Total	821,575	6,465	180,800	2,783	451,875	9,198
Gill nets:						
Sturgeon	6,000	210	40,000	1,600	46,000	1,810
Caviar			2,000	800	2,000	800
Total	6,000	210	42,000	2,400	48,000	2,610
Lines:						
Groupers			685,000	6,850	685,000	6,850
Jew-fish			2,000	40	2,000	40
Red snapper			3,466,500	69,331	3,466,500	69,331
Total			4,108,500	75,721	4,108,500	75,721

Table showing, by counties, apparatus, and species, the yield of the vessel fisheries of Alabama in 1902—Continued.

Apparatus and species.	Baldwin.		Mobile.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Dredges:						
Oyster, natural	89,925	\$6,150	11,900	\$2,200	51,825	\$8,350
Tongs:						
Oyster, natural	86,222	10,302	38,765	10,471	74,987	20,778
Oyster, private	7,615	6,525	4,875	3,565	12,490	10,090
Total	48,837	16,827	43,640	14,036	87,477	30,863
Grand total	478,387	31,050	4,721,415	106,095	5,199,802	137,745

Table showing, by counties, apparatus, and species, the yield of the shore fisheries of Alabama in 1902.

Apparatus and species.	Baldwin.		Mobile.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Seines:						
Blue-fish			1,500	\$37	1,500	\$37
Cat-fish	600	\$12			600	12
Channel bass or red-fish	315	17	3,000	105	8,315	122
Crapple	50	3			50	3
Crevalle	200	4	300	4	500	8
Croaker	600	13	2,000	25	2,600	38
Drum, fresh-water	50	3			50	5
Drum, salt-water	235	5			235	12
Flounders	100	7	150	5	100	2
Lady-fish	100	2			100	5
Mangrove snapper	100	5			100	5
Menhaden			10,000	25	10,000	25
Mullet	1,800	45	2,500	32	4,300	77
Pig-fish			200	2	200	2
Pompano	300	15	200	14	500	29
Sea bass			500	18	500	18
Shad	150	3			150	3
Sheepshead	350	17	1,200	42	1,550	59
Spade-fish	200	10	500	17	700	27
Spanish mackerel	800	15			800	15
Spot	150	3	3,000	87	3,150	40
Strawberry bass	50	3			50	3
Sun-fishes	100	5			100	5
Trout	4,900	247	10,000	232	14,900	529
Warmouth	100	5			100	5
Whiting	200	4	1,500	19	1,700	23
Yellow-tail	50	1			50	1
Shrimp	200	12			200	12
Crab, hard	230	18	800	10	1,030	28
Terrapin			1,700	234	1,700	234
Turtle			2,000	25	2,000	25
Total	11,430	474	41,050	993	52,480	1,467
Trammel nets:						
Black bass	9,400	800	14,150	1,208	23,550	2,008
Blue-fish	50	2	450	14	500	16
Buffalo-fish	35,000	700	53,100	1,051	88,100	1,751
Cat-fish	44,500	971	60,300	1,354	104,800	2,325
Channel bass or red-fish	5,500	199	12,700	486	18,200	685
Crapple	2,100	104	3,000	150	5,100	254
Crevalle	1,275	19	2,100	29	3,375	48
Croaker	12,900	298	13,200	339	26,100	637
Drum, fresh-water	800	40	1,200	53	2,000	93
Drum, salt-water	975	17	200	8	1,175	25
Flounders	8,800	335	4,400	136	13,200	521
Jurel			200	4	200	4
Lady-fish	275	4			275	4
Moon-fish			800	10	800	10
Mullet	686,000	9,425	415,000	7,210	1,051,000	16,635
Pig-fish	350	16	500	6	1,350	22
Pike, or pickerel	400	20	600	30	1,000	50
Pin-fish	2,000	36	1,050	21	3,050	57
Pompano	50	5	750	54	800	59
Sea bass	150	7	400	14	550	21
Sheepshead	5,300	225	8,800	351	13,900	576
Spade-fish			600	17	600	17

450 REPORT OF COMMISSIONER OF FISH AND FISHERIES.

Table showing, by counties, apparatus, and species, the yield of the shore fisheries of Alabama in 1902—Continued.

Apparatus and species.	Baldwin.		Mobile.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Trammel nets—Continued.						
Spanish mackerel.....	100	\$7	850	\$20	450	\$27
Spot.....	9,650	167	7,200	128	16,850	295
Strawberry bass.....	2,500	124	3,600	180	6,100	304
Sun-fishes.....	8,500	173	4,800	240	8,300	413
Trout.....	44,450	1,912	70,500	2,987	115,250	4,879
Warmouth.....	8,900	188	5,400	262	9,800	450
Whiting.....	4,300	97	3,300	168	12,600	265
Terrapin.....			800	135	800	135
Total.....	894,725	15,891	694,250	16,695	1,528,975	32,686
Gill nets:						
Sturgeon.....	4,000	120	50,000	2,000	54,000	2,120
Caviar.....			3,000	1,200	3,000	1,200
Total.....	4,000	120	53,000	3,200	57,000	3,320
Lines:						
Black bass.....	2,500	210	10,000	1,000	12,500	1,210
Buffalo-fish.....			20,000	500	20,000	500
Cat-fish.....	750	15	30,000	1,200	30,750	1,215
Channel bass or red-fish.....	1,200	60	1,500	52	2,700	112
Crapple.....			6,300	500	6,300	500
Croaker.....	500	10	600	8	1,100	18
Drum, salt-water.....	250	5			250	5
Mangrove snapper.....	400	8			400	8
Pike, or pickerel.....			500	40	500	40
Sheepshead.....	1,200	60	1,500	52	2,700	112
Strawberry bass.....			8,800	700	8,800	700
Sun-fishes.....			8,800	700	8,800	700
Trout.....	17,500	830	12,000	420	29,500	1,250
Warmouth.....			3,800	700	3,800	700
Whiting.....	500	10			500	10
Crab, hard.....	9,600	240	64,600	1,950	74,200	2,190
Total.....	84,400	1,448	173,400	7,822	207,800	9,270
Tongs:						
Oyster, natural.....	80,150	8,700	1,848,350	47,475	1,928,500	51,175
Oyster, planted.....	21,700	2,080	342,720	27,805	364,420	29,985
Total.....	101,850	5,780	2,191,070	74,780	2,292,920	80,560
Minor apparatus:						
Flounders.....	5,000	125	8,500	125	8,500	250
Terrapin.....	450	105	3,520	1,379	3,970	1,484
Total.....	5,450	230	7,020	1,504	12,470	1,734
Grand total.....	991,855	23,948	3,159,790	104,994	4,151,645	128,937

THE WHOLESALE FISHERY TRADE.

The wholesale fishery trade of Alabama centers at Mobile, this being the only city on the coast of the state. Shipments of products are received there, not only from localities in Alabama, but also from Mississippi. There are five wholesale fishery establishments, two of which handle both fish and oysters, two deal only in fish, and one only in oysters. The oysters are handled entirely in a raw condition, and the fish are sold fresh as received from the fishermen. Oysters are always sold by number, and are usually shipped in cedar buckets, not hermetically sealed, but are water-tight and holding about 2½, 4, and 8 gallons each. The number of oysters in a bucket is from 500 to 2,000, according to the kind of bucket and the size of the oysters. The

red snapper is the most important species of fish handled by these firms and is shipped over a considerable portion of the country. Among other important species handled are mullet, groupers, buffalo-fish, trout, channel bass or red-fish, Spanish mackerel, spots, sheeps-head, croakers, and flounders. The only wholesale fishery trade carried on outside of Mobile is at Coden and Bayou Labatre. In 1902 one firm handling opened oysters was located at Coden. At Bayou Labatre there was one oyster cannery, and four firms handling opened oysters, one of the latter also dealing in fresh fish. As there was only one oyster cannery in the state, the products are shown in the statistics as opened oysters, with the value received for them after being canned.

Table showing the extent of the wholesale fishery trade in Alabama in 1902.

Items.	Quantity.	Value.	Items.	Quantity.	Value.
Establishments.....	11	\$134,850	<i>Products handled—Cont'd.</i>		
Cash capital.....		57,500	King-fish..... lbs..	700	\$25
Wages paid.....		68,300	Lady-fish..... do..	600	12
Persons engaged.....	888		Mangrove snapper... do..	200	8
<i>Products handled.</i>			Moon-fish..... do..	700	14
Oysters opened..... no..	448,878,000	182,202	Mullet..... do..	1,210,000	82,150
Shrimp..... lbs..	40,000	8,200	Plg-fish..... do..	15,400	394
Crabs..... no..	37,800	4,285	Pike, or pickerel... do..	850	55
Terrapin..... do..	8,500	1,425	Pin-fish..... do..	19,100	644
Turtles..... lbs..	8,800	288	Pompano..... do..	85,100	5,804
Snapper throat..... do..	5,000	250	Red snapper..... do..	8,600,000	165,850
Black bass..... do..	8,800	857	Sea bass..... do..	5,600	327
Blue-fish..... do..	41,000	2,035	Sheepshead..... do..	194,800	7,546
Bonito..... do..	1,100	35	Spade-fish..... do..	28,900	912
Buffalo-fish..... do..	238,100	6,403	Spanish mackerel... do..	60,250	7,125
Cat-fish..... do..	107,200	8,801	Spots..... do..	89,500	3,994
Channel bass or red-fish, pounds	128,000	6,620	Strawberry bass... do..	2,900	192
Crappie..... lbs..	2,600	173	Sturgeon..... do..	51,000	5,025
Crevalle..... do..	9,700	340	Caviar..... do..	4,500	3,325
Croaker..... do..	75,700	3,230	Sun-fish..... do..	6,800	458
Drum, fresh-water... do..	5,100	191	Trout, speckled... do..	214,000	11,865
Drum, salt-water... do..	9,750	811	Trout, white..... do..	45,500	1,940
Flounders..... do..	57,200	3,251	Warmouth..... do..	4,900	846
Groupers..... do..	744,200	22,250	Whiting..... do..	21,800	596
Jew-fish..... do..	2,000	40	Yellow-tail..... do..	800	6
Jurel..... do..	400	12	Total value of product.....		488,640

^a Includes the estimated number of oysters opened by the cannery at Bayou Labatre for canning purposes, and the value received when sold as canned goods.

FISHERIES OF MISSISSIPPI.

The coast line of Mississippi, including indentations, is about 180 miles in length and is well adapted for the prosecution of fishing. Of the three counties bordering on the Gulf of Mexico, Jackson, Harrison, and Hancock, Harrison has coast fisheries more than three times as important as those of the other two counties combined. Biloxi, a town of about 5,000 inhabitants, is located in this county and is the most important oyster center on the gulf coast. It is the leading town in the state in the catch of both oysters and shrimp, but is surpassed by Scranton, in Jackson County, in the catch of fish. Ocean Springs, also in Jackson County, ranks next to Biloxi in the quantity of fish caught. Of the other towns on the coast interested in the fisheries,

the most important are Bay St. Louis, in Hancock County, and Gulfport and Pass Christian, in Harrison County.

Markets.—The principal markets for the fishery products of Mississippi are New Orleans, La., Mobile, Ala., and the interior towns and cities of Mississippi and adjoining states, although canned oysters and shrimp are shipped throughout nearly the entire country. There are good shipping facilities at all the towns on the coast of Mississippi. At Biloxi fish are frequently landed by vessels from New Orleans and elsewhere, and are there iced and shipped to market. This is also done to some extent at Gulfport.

Rivers.—Mississippi has several rivers emptying into the Gulf of Mexico, the most important being the Pearl, Pascagoula, Jordan, and Wolf. The Pascagoula River, flowing through Jackson County, has the most extensive fisheries. The Wolf and Jordan rivers, in Harrison and Hancock counties, respectively, are frequented by fishermen from Bay St. Louis, the principal apparatus used being trammel nets.

Oysters.—The oyster fishery is by far the most important branch of fishing in the state, and is capable of much further development. Canneries and shucking houses are being built from year to year, thus increasing the demand for oysters. The increase in the number of shucking houses since 1897, the year for which the previous canvass of the state was made, has been greatest at Pass Christian.

In 1902 considerable change was made in the legislation regulating the oyster-fishery and oyster-canning industry. A law went into effect on June 1 of that year providing for a board of oyster commissioners, consisting of five members to be appointed by the governor, whose terms of office are for five years, the terms of the members first appointed being so arranged that thereafter a vacancy would occur and a new member be appointed each year. The officers of the board consist of a president, secretary, chief inspector, and deputy inspectors not exceeding three in number.

The act also provides that the owner of any vessel over 1 ton burden gross desiring to catch oysters from the public reefs shall obtain a license therefor from the secretary of the board of oyster commissioners, and said license shall be in force twelve months from the first day of the month in which it is issued. The cost of each license is \$2.50 for vessels over 1 ton and under 5 tons; \$5 for vessels of 5 tons and under 10 tons; \$10 for vessels of 10 tons and under 20 tons, and \$15 for vessels of 20 or more tons. In addition to this a fee of 50 cents is charged for each license. No license is required for boats of 1 ton gross and under. Each canning factory is also required to pay a privilege tax of \$100, and each shipper of raw oysters a tax of \$25; after which they receive a license by paying an additional fee of 50 cents. They are also assessed 2 cents a barrel on all oysters canned or shipped in a raw condition. The money obtained from the payment

of these taxes, except the 50 cents for each license, is to be paid over to the state treasurer, and constitutes an oyster fund. The expenses of enforcing the law are paid out of this fund, and a sum not exceeding \$5,000 annually may be expended in improving the oyster reefs and in spreading shells and making new bottom, under the direction of the board of oyster commissioners.

All oysters taken from the public reefs of the state must be culled immediately on the natural beds or bars as taken, and all young oysters less than two and a half inches in length and all shells must be returned to the reefs. No cargo of oysters is allowed to contain more than 7 per cent of shells and small oysters. In order to determine whether or not a cargo has been properly culled, the inspector, if he deems it necessary, may cause every tenth barrel in the cargo to be culled. If the cargo on this basis proves to be unculled as required by law, he shall cause it to be reculled and the young oysters and shells returned to the reefs, and he shall prosecute the offender.

The chief inspector is authorized, between May 15 and September 1 in each year, under the direction of the board of commissioners, to employ boats, crews, and laborers, and dredge the oysters in Mississippi Sound from places where they are too thick and spread them on reefs where they are too thin, and to carry shells from the factories and spread them in places where the beds can be improved and enlarged.

The legal season for taking oysters in Mississippi waters is from September 15 to May 15, and oysters are not allowed to be shipped out of the state from May 1 to September 15. The law provides, however, that oysters may be taken during the entire year for local consumption. Oyster planters are also allowed to take oysters from the public reefs for planting in the waters of the state from May 15 to July 1, and oysters taken for planting purposes are not required to be culled.

Steam dredging for oysters, which began in 1897 in this state, was prohibited by the law passed in 1902, but there are no restrictions upon the use of dredges operated by sail vessels and boats. The section of the present law relating to the use of dredges is as follows:

SEC. 28. No steamer or other vessel using or propelled by steam or any other power than sail or hand, and no dredge, tongs, scoop, or other instrument or appliance of any character, propelled, managed, aided, used, or operated by means of steam or other power except hand and sail, shall be used or employed in catching or taking oysters in any of the waters of this State. This shall not prohibit the transportation by means of steam vessels of any oysters that have been lawfully caught.

The yield of oysters in Mississippi in 1902 was 2,405,132 bushels, valued at \$426,222, an increase, as compared with the returns of 1897, of 1,775,419 bushels, or 281.94 per cent in quantity, and of \$315,258, or 284.10 per cent in value. The catch would probably have been still larger, but the requirement, for the first time, of a license to

operate vessels and boats of over 1 ton gross in catching oysters caused considerable inconvenience to the oystermen for a while, and some of them neglected to obtain a license, and consequently did not engage in the fishery. The discontinuance of steam dredging, previously allowed in depths of 14 feet and over, was another change made by the new law which may have had an unfavorable effect on the catch. The dredging is now done by sail vessels in depths varying from about 4 to 21 feet. In 1902 a law was passed in Louisiana prohibiting the shipping of oysters out of the state for canning or packing. The influence of this law in curtailing the supply was felt by all of the packers in Mississippi, but especially by those in the western part of the state adjacent to Louisiana. Many of the oystermen, especially from Gulfport westward, tong in the waters of both Mississippi and Louisiana.

The oyster fishery in Mississippi is prosecuted in Mississippi Sound. The absence of oysters in the rivers may be due to the fact that, while the waters are brackish a distance of 5 to 10 miles up from the river mouths from June to November, they are practically fresh the remainder of the year.

Owing to the continued productiveness of the public reefs, and their close proximity to markets, there has so far been no great inducement to engage in oyster planting except in the case of cannery owners, who sometimes plant shells for collecting spat, and take up the resulting oysters when needed. No grounds are leased by the state for oyster cultivation, but the planting referred to is done on bottom made available by riparian rights.

Shrimp.—Next to the oyster the shrimp is the most important fishery product of the state. Most of the oyster vessels engage in taking shrimp in the spring and fall, April and May, and September and October being the seasons. In the spring the shrimp come in close to land and are caught in the small bayous which penetrate the marshes, the seines for taking them often being hauled upon the shore. They gradually work out into deeper water, and after the 1st of August are not seen until the fall season, when they are caught from 10 to 40 miles from shore. In the spring the catch is landed and sold at the canneries, but in the fall it is usually sold to transporting vessels, as the fishermen sometimes remain out a week at a time, or until their supply of ice is exhausted. The fall catch of shrimp is always much larger than the spring catch, due mainly to a longer season. Five men constitute the average crew of a shrimp vessel, though many carry only four. In hauling the seine two small row-boats, containing two men each, are used, the fifth man remaining on board of the vessel. The small boats are attached to the seine, one at each end, in order to surround the school of shrimp. In 1902 practically the entire catch of shrimp was used by the canning factories,

only a small quantity being shipped whole, as taken from the water. The catch of shrimp in this state in 1902 was 4,423,900 pounds, valued at \$58,398, an increase, as compared with 1897, of 2,520,735 pounds and \$29,594.

Trout.—Trout, or squeteague, rank next to shrimp in importance. They are taken very generally along the entire Gulf coast, trammel nets, seines, and lines being the principal apparatus of capture. Two species of squeteague are caught in Mississippi, known locally as "speckled trout" and "white trout," respectively. The former is a much firmer and better selling fish than the latter and largely predominates in the catch. The white trout is the species of squeteague so common along the Atlantic coast.

Mullet.—This is the most abundant species of fish taken in the shore fisheries of the Gulf coast. In Mississippi, however, its value is less than that of trout. Most of the catch in this state is taken in trammel nets, but a part is secured in cast nets. In some instances seines are successfully used, but this is only under certain conditions when the fish can not escape by jumping out of the net.

Croakers.—The catch of croakers is next to that of mullet in value. While not nearly so plentiful as mullet, the croaker sells much more readily, the market conditions in this section being quite different from those on the Atlantic coast, where there is at times no demand for this fish. It is caught principally on lines, though many are also taken in seines and trammel nets.

Channel bass or red-fish.—This is a widely distributed species and sells well. It is taken chiefly in trammel nets, but also in smaller quantities with seines and lines.

Sturgeon.—The capture of sturgeon in the fisheries of this state is of recent date, none being taken in any previous year for which statistics are available. The great scarcity of this species in the northern sections of the country is no doubt leading to the development of the fishery along the gulf coast. Sturgeon are quite plentiful in Mississippi waters, the Pascagoula River being especially well stocked with them. The fishery is now prosecuted for a distance of 60 miles up this river by the use of gasoline launches. In 1902 a sturgeon was caught measuring 8 feet 10 inches in length and 4 feet 8 inches in circumference. It is said that one measuring 14 feet in length was killed in the Pascagoula River by a tug boat, three or four years ago. Its weight was estimated between 500 and 600 pounds.

Black bass.—This species, as in other sections of the country, brings the fishermen a high price. It is very numerous in most of the rivers of Mississippi, though on account of the prohibition of the use of nets where it is most abundant, the quantities taken for market are not large.

Shad.—Shad are said to be taken regularly in the Pascagoula River about 10 miles from its mouth, but few, if any, reach the market, as

they are consumed locally by the fishermen. A plant of shad was made in this locality by the Fish Commission several years ago, but from some unknown cause the increase has not been as rapid as was expected. Some fishermen think better results might have been secured had the fish been planted about 30 miles from the mouth of the river, where the fry would have been safe from the predaceous salt-water species. A few shad were planted also in the Jordan River about the same time, but there is no record of more than an occasional capture.

Crabs.—Both hard and soft crabs are caught in this state, but the catch of the former is much the greater. Hard crabs are generally taken on trot lines baited with fresh meat, tripe, or the sinews of cattle. The season at Biloxi, where the largest catches are made, lasts about nine months of the year, the weather during the winter months, usually from December 15 to March 15, being too severe to permit of the fishery. In one locality a few hard crabs were taken with drop nets, an apparatus consisting of an iron hoop 2 feet in diameter with a shallow net attached. The net is baited with a piece of meat, and then dropped into the water by means of a line 10 or 15 feet long attached to the hoop. This, however, is rather a slow method of capture. Soft crabs are taken mostly by hand during the night, a lighted torch being used to find them. The fishing season is from May 15 to October 15. Until recently the crab catch has been used largely for local consumption, but a larger number of shipments is now being made.

Terrapin.—The greater part of the catch of this species credited to Mississippi is taken in the marshes of Louisiana. In most cases the fishermen secure the terrapin while fishing for oysters. Nippers are commonly used for catching them, but many are also taken by hand. At Biloxi, the center of the terrapin trade in Mississippi, there is a pound in which the animals are placed until they reach a marketable size, or are held for profitable prices.

Dredges and tongs.—These two kinds of apparatus are employed exclusively for taking oysters, and are used in both the shore and vessel fisheries. The use of dredges in Mississippi is comparatively recent, dating back only to 1897. As has already been stated, steam dredging was permitted until the season of 1902, when it was prohibited by the legislature.

Seines.—Two kinds of seines are used, one for catching shrimp and the other for catching fish. Shrimp seines average from 100 to 125 fathoms in length, an occasional one being 150 fathoms long. The size of the mesh is $1\frac{1}{2}$ inches, stretched. The majority of the seines, both for shrimp and fish, widen toward the center, forming a pocket in which the catch settles when the ends of the seine are brought together. At Scranton, where fish seines are in more general use than

in any other locality in the state, they vary in width from 7 feet at the ends to 12 or 15 feet in the center, the latter forming a pocket about 12 feet deep. Shrimp seines are used chiefly on vessels, while most of the fish seines are used in the shore fisheries, except at Scranton, where they are used in both fisheries.

Trammel nets.—This apparatus is employed in both the shore and vessel fisheries, but mainly in the former. Scranton and Biloxi lead in the number of trammel nets. Those in common use at these places are about 5 feet deep, and are composed of three webs hung upon a single top and bottom line. The inside net is made of the best cotton, has a 2½-inch mesh stretched, and is hung slack. The two outside nets are hung straight, and have a 12-inch mesh, stretched. The top line usually has wooden corks or floats, and on the bottom line are leads placed about one foot apart, to keep the net in position. In this region the trammel net is operated by hauling it around the fish until they are forced into it. The use of this method of fishing is no doubt due to the presence of large schools of mullet, which can be taken more readily in trammel nets than in seines, because, owing to their propensity to jump, they can not readily be held in the latter. Often when a large school of fish is sighted, two trammel nets are fastened together, a man being stationed at each end of the net and another in the center where the two sections are joined.

Lines.—Lines are used exclusively in the shore fisheries. Many species are taken thus, but the most important are croakers, trout, and hard crabs.

Spears.—The use of spears is confined to the capture of flounders in the shore fisheries, and the fishing is usually done at night during June, July, and August, a flambeau or torch being used to furnish light.

Cast net.—This apparatus has become so common that it is nicknamed "life-preserver." Nearly every family living near the water possesses one. Its use for commercial fishing, however, is comparatively limited.

Gill nets.—The use of gill nets in 1902 was confined to the sturgeon of Jackson County, in the Pascagoula River. The average length of a sturgeon gill net was 200 yards, with a mesh 16 inches in length, stretched.

Persons employed.—The total number of persons engaged in the fisheries of this state in 1902 was 4,344. Of this number 826 were employed on fishing vessels; 70 on transporting vessels; 891 in the shore fisheries; and 2,557 as shoresmen, chiefly in the oyster and shrimp canneries. Compared with 1897 there was an increase of 1,779 persons, or 69.35 per cent. This was due largely to the development of the oyster fishery and the construction of new canneries.

Investment.—The total investment in the fisheries in this state in

458 REPORT OF COMMISSIONER OF FISH AND FISHERIES.

1902 was \$1,270,408, an increase as compared with the returns for 1897 of \$752,107, or 145.11 per cent. Of the total investment, \$160,200 represents the cash capital employed; \$724,807 the amount invested in shore and accessory property; \$280,650 the value of 179 fishing vessels and 13 transporting vessels, with their outfits; and \$65,800 the value of 590 boats under 5 tons. The remainder represents the value of the fishing apparatus used.

Products.—The products of the fisheries of Mississippi in 1902 amounted to 23,426,965 pounds, having a value to the fishermen of \$553,220, an increase since 1897 of 15,597,280 pounds, or 199.20 per cent, in quantity and \$360,922, or 187.68 per cent, in value. This large increase was principally in oysters and shrimp.

The following tables present by counties the number of persons employed, the amount of capital invested, and the quantity and value of the products of the fisheries of Mississippi in 1902:

Table showing, by counties, the number of persons employed in the fisheries of Mississippi in 1902.

Counties.	On vessels fishing.	On vessels transporting.	Boat or shore fishermen.	Shoresmen.	Total.
Jackson	70	.....	183	153	406
Harrison	712	47	588	2,099	3,446
Hancock	44	28	120	805	492
Total	826	70	891	2,567	4,344

Table showing, by counties, the vessels, boats, and apparatus employed in the fisheries of Mississippi in 1902.

Items.	Jackson.		Harrison.		Hancock.		Total.	
	No.	Value.	No.	Value.	No.	Value.	No.	Value.
Vessels fishing	18	\$16,450	151	\$148,560	10	\$7,200	179	\$167,200
Tonnage	146	.....	1,631	.....	75	.....	1,852	.....
Outfit .....	.....	4,845	.....	89,480	4	2,555	.....	46,430
Vessels transporting .....	.....	.....	9	47,400	.....	16,500	13	68,900
Tonnage .....	.....	.....	180	.....	118	.....	298	.....
Outfit .....	.....	.....	.....	2,195	.....	925	.....	3,120
Boats	185	10,635	847	47,455	57	7,710	590	66,800
Apparatus—vessel fisheries:								
Seines	12	1,065	66	7,095	2	200	80	8,860
Trammel nets	10	600	.....	.....	.....	.....	10	500
Dredges	20	620	270	8,110	8	220	298	8,960
Tongs	17	68	89	856	21	85	127	509
Minor apparatus .....	.....	.....	7	20	.....	.....	7	20
Apparatus—shore fisheries:								
Seines	18	1,075	52	5,120	1	50	66	6,245
Trammel nets	38	6,500	37	1,602	6	150	81	8,252
Gill nets	32	440	.....	.....	.....	.....	32	440
Cast nets	5	25	21	105	1	4	27	184
Lines .....	.....	186	.....	655	.....	86	.....	827
Dredges	52	210	90	2,810	2	40	144	2,560
Tongs	21	84	421	1,674	90	860	532	2,118
Minor apparatus .....	.....	11	.....	24	.....	1	.....	36
Shore and accessory property .....	.....	22,175	.....	629,275	.....	78,357	.....	724,807
Cash capital .....	.....	22,000	.....	128,200	.....	10,000	.....	160,200
Total .....	.....	86,339	.....	1,064,576	.....	119,493	.....	1,270,408

Table showing, by counties and species, the yield of the fisheries of Mississippi in 1902.

Species.	Jackson.		Harrison.		Hancock.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Black bass.....	14,460	\$723	2,600	\$141			17,060	\$864
Blue-fish.....	11,645	818	50	3			11,695	816
Buffalo-fish.....	4,250	54	400	12			4,650	66
Cat-fish.....	81,600	578	30,900	689			62,400	1,267
Channel bass or red-fish.....	61,200	2,585	31,160	1,593	910	\$89	83,270	4,167
Crapple.....	900	33	700	40	150	9	1,750	82
Croaker.....	44,600	822	216,100	7,010	12,800	741	273,000	8,578
Drum, salt-water.....	11,040	301	620	17			11,660	318
Flounders.....	82,400	1,373	46,460	1,822	600	80	79,460	3,225
Mullet, fresh.....	446,200	6,200	181,050	3,517	16,500	830	598,750	10,047
Mullet, salted.....			6,000	300			6,000	300
Pin-fish.....	6,000	143	600	18			6,600	166
Pompano.....	6,495	458	150	9			6,645	467
Sea bass.....	3,395	175	50	8			3,445	178
Sheepshead.....	56,450	2,285	14,240	647	685	82	70,225	2,964
Spade-fish.....	2,450	58					2,450	58
Spanish mackerel.....	6,755	956	500	29	200	80	7,455	415
Spot.....	81,400	538	44,900	1,423	1,200	60	77,500	2,021
Strawberry bass.....	900	33	700	40	150	9	1,750	82
Sturgeon.....	24,100	1,200					24,100	1,200
Caviar.....	414	810					414	810
Sun-fish.....	2,900	79	700	30	250	15	3,850	124
Trout.....	315,275	11,038	118,500	4,877	89,570	1,818	473,345	17,728
Warmouth.....	1,200	44	8,000	220	300	17	4,500	281
Whiting.....	20,450	493	81,660	687	1,200	72	53,310	1,252
Shrimp.....	590,900	8,257	3,768,000	48,765	65,000	1,375	4,423,900	58,398
Crab, hard.....	28,300	460	198,638	4,020	8,000	200	234,938	4,680
Crab, soft.....			18,233	1,880	12,000	900	30,233	2,880
Terrapin.....	4,600	1,537	7,191	8,082			11,691	4,619
Oyster, natural.....	994,420	25,110	18,517,854	342,977	1,862,175	42,060	21,374,449	410,147
Oyster, private.....	204,750	7,650	258,725	8,425			463,475	16,075
Total.....	2,958,249	78,156	18,447,676	432,327	2,021,040	47,737	23,426,965	553,220

a 704,799 in number. b 90,699 in number. c 8,496 in number. d 2,339,207 in bushels. e 65,925 in bushels.

VESSEL AND SHORE FISHERIES.

The products of the vessel fisheries of Mississippi in 1902 amounted to 12,772,486 pounds, valued at \$287,747. The catch with seines was 2,574,740 pounds of various species, valued at \$35,663; with trammel nets, 165,150 pounds, valued at \$3,678; with dredges and tongs, 10,030,125 pounds, or 1,432,875 bushels, of oysters, valued at \$247,027; and with minor apparatus, 2,471 pounds of terrapin, valued at \$1,379. In the shore fisheries the yield was 10,654,479 pounds, valued at \$265,473. Seines took 2,113,790 pounds, \$33,739; trammel nets, 884,530 pounds, \$24,765; gill nets, 24,514 pounds, \$1,510; cast nets, 93,010 pounds, \$2,478; lines, 646,100 pounds, \$17,393; spears, 46,000 pounds, \$1,770; dredges and tongs, 6,805,799 pounds, or 972,257 bushels, of oysters, \$179,195; and minor appliances, 40,736 pounds of crabs and terrapin, \$4,623. The oysters were all from the public areas, except 65,925 bushels, valued at \$16,075, taken in the shore fisheries.

460 REPORT OF COMMISSIONER OF FISH AND FISHERIES.

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

Table showing, by counties, apparatus, and species, the yield of the vessel fisheries of Mississippi in 1902.

Apparatus and species.	Jackson.		Harrison.		Hancock.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Seines:								
Black bass	660	\$33					660	\$33
Blue-fish	670	21					670	21
Buffalo-fish	600	7					600	7
Cat-fish	1,600	32					1,600	32
Channel bass or red-fish	8,600	365					8,600	365
Croaker	6,800	132					6,800	132
Drum	1,340	81					1,340	81
Flounder	3,000	129					3,000	129
Mullet	2,700	49					2,700	49
Pompano	670	47					670	47
Sea bass	870	45					870	45
Sheepshead	7,200	297					7,200	297
Spade-fish	600	6					600	6
Spanish mackerel	680	34					680	34
Spot	4,900	90					4,900	90
Sun-fish	700	14					700	14
Trout	32,400	1,169					32,400	1,169
Whiting	2,600	57					2,600	57
Shrimp	304,900	4,107	2,181,800	\$27,896	60,000	\$1,200	2,496,700	32,703
Terrapin	1,450	402					1,450	402
Total.....	382,940	7,067	2,181,800	27,896	60,000	1,200	2,574,740	85,663
Trammel nets:								
Black bass	1,000	50					1,000	50
Blue-fish	1,900	47					1,900	47
Buffalo-fish	750	10					750	10
Cat-fish	2,950	53					2,950	53
Channel bass or red-fish	7,700	288					7,700	288
Croaker	4,400	73					4,400	73
Drum	1,600	43					1,600	43
Flounder	3,050	118					3,050	118
Mullet	85,500	1,070					85,500	1,070
Pompano	1,200	84					1,200	84
Sea bass	1,200	60					1,200	60
Sheepshead	6,900	264					6,900	264
Spade-fish	600	9					600	9
Spanish mackerel	1,200	60					1,200	60
Spot	3,250	49					3,250	49
Sun-fish	900	16					900	16
Trout	38,400	1,331					38,400	1,331
Whiting	2,650	53					2,650	53
Total.....	165,150	3,678					165,150	3,678
Dredges:								
Oyster, natural	508,725	13,570	7,822,330	190,448	448,800	10,400	8,814,855	214,413
Tongs:								
Oyster, natural	92,260	2,635	734,510	21,629	388,500	8,350	1,215,270	32,614
Minor apparatus:								
Terrapin			2,471	1,879			2,471	1,879
Grand total.....	1,149,075	26,960	10,731,111	240,847	892,800	19,950	12,772,486	287,747

Table showing, by counties, apparatus, and species, the yield of the shore fisheries of Mississippi in 1902.

Apparatus and species.	Jackson.		Harrison.		Hancock.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Seines:								
Black bass	2,000	\$100	1,000	\$45			8,000	\$145
Blue-fish	825	24	50	8			875	27
Buffalo-fish	400	6					400	6
Cat-fish	1,150	23	200	7			1,350	30
Channel bass or red-fish	12,650	560	4,850	274	80	\$0	17,580	860
Crappie	100	4	200	10			300	14
Croaker	8,550	223	17,200	605	800	21	26,050	849
Drum	1,100	26	120	3			1,220	29
Flounder	5,500	247	2,070	107			7,570	354
Mullet	9,500	166	2,650	86			12,150	242
Pin-fish	100	3	100	8			200	6
Pompano	775	56	50	3			825	59
Sea bass	275	17	50	3			325	20
Sheepshead	9,000	402	2,170	119			11,170	521
Spade-fish	100	2					100	2
Spanish mackerel	875	49	150	14			1,025	63
Spot	8,200	148	22,200	560	700	85	31,100	743
Strawberry bass	100	4	200	10			300	14
Sun-fish	200	8	200	10			400	18
Trout	29,250	1,132	21,700	1,218	600	35	51,450	2,385
Warmouth	100	4	600	80			700	34
Whiting	5,800	140	7,300	183			13,100	323
Shrimp	286,000	4,150	1,636,200	21,370	5,000	175	1,927,200	25,695
Crab, hard			1,800	45			1,800	45
Terrapin	2,400	855	1,300	400			3,700	1,255
Total.....	384,950	8,859	1,722,260	25,108	6,580	272	2,118,790	83,739
Trammel nets:								
Black bass	8,500	425	1,600	96			10,100	521
Blue-fish	8,250	221					8,250	221
Buffalo-fish	2,500	31	400	12			2,900	43
Cat-fish	9,400	142	1,100	42			10,500	184
Channel bass or red-fish	26,450	1,070	22,710	1,173	750	30	49,910	2,273
Crappie	300	12	500	30	100	6	900	48
Croaker	19,050	304	25,150	1,050	10,000	600	54,200	1,954
Drum	5,750	191	500	14			6,250	205
Flounder	14,800	697	8,790	189	300	15	18,890	811
Mullet	324,500	4,625	73,400	1,761	15,000	800	412,900	6,686
Pin-fish	5,900	145	500	15			6,400	160
Pompano	3,800	238	100	6			3,900	274
Sea bass	1,000	50					1,000	50
Sheepshead	26,500	1,085	2,970	162			29,470	1,250
Spade-fish	1,150	41					1,150	41
Spanish mackerel	3,800	203					3,800	203
Spot	14,700	247	18,800	698	600	25	34,000	970
Strawberry bass	300	12	500	30	100	6	900	48
Sun-fish	700	26	500	20	200	12	1,400	58
Trout	144,850	5,200	31,800	1,628	30,000	1,405	206,650	8,133
Warmouth	500	20	2,500	190	200	12	3,200	222
Whiting	8,800	231	9,060	179			17,860	410
Total.....	631,500	15,159	195,880	7,195	57,150	2,411	884,530	24,765
Gill nets:								
Sturgeon	24,100	1,200					24,100	1,200
Caviar	414	810					414	810
Total.....	24,514	1,510					24,514	1,510
Cast nets:								
Channel bass or red-fish					80	3	80	3
Crappie					50	3	50	3
Drum	50	2					50	2
Flounder			250	10			250	10
Mullet, fresh	24,000	300	55,000	1,670	1,500	30	80,500	2,000
Mullet, salted			6,000	300			6,000	300
Sheepshead	50	2	250	10	85	2	385	14
Spot	850	4	1,400	20			1,750	24
Strawberry bass					50	3	50	3
Sun-fish					50	3	50	3
Trout	375	13	1,250	62	70	3	1,695	78
Warmouth					100	5	100	5
Whiting	400	8	1,700	25			2,100	33
Total.....	25,225	329	65,850	2,097	1,935	52	93,010	2,478

462 REPORT OF COMMISSIONER OF FISH AND FISHERIES.

Table showing, by counties, apparatus, and species, the yield of the shore fisheries of Mississippi in 1902—Continued.

Apparatus and species.	Jackson.		Harrison.		Hancock.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Lines:								
Black bass	2,800	\$115					2,800	\$115
Cat-fish	16,400	328	29,600	\$640			46,000	968
Channel bass or red-fish	5,800	232	3,600	146			9,400	378
Crapple	500	17					500	17
Croaker	5,800	90	178,750	5,855	2,000	\$120	181,550	5,665
Drum	1,200	8					1,200	8
Flounder	50	2	350	16	300	15	700	33
Pompano	50	3					50	3
Sea bass	50	3					50	3
Sheepshead	5,800	232	8,850	356	500	30	15,150	618
Spanish mackerel	200	10	850	15	200	30	1,250	55
Spot			2,500	145			2,500	145
Strawberry bass	500	17					500	17
Sun-fish	400	15					400	15
Trout	70,000	2,188	63,750	2,069	9,000	375	142,750	4,632
Warmouth	600	20					600	20
Whiting	200	4	13,000	300	1,200	72	15,000	376
Crab, hard	26,700	400	192,000	3,825	8,000	200	226,700	4,425
Total.....	136,550	3,684	483,350	12,867	21,200	842	646,100	17,398
Spears:								
Flounder	6,000	270	40,000	1,500			46,000	1,770
Dredges:								
Oyster, natural			1,279,600	31,050	45,500	975	1,325,100	32,025
Oyster, private			136,500	3,600			136,500	3,600
Total.....			1,416,100	34,650	45,500	975	1,461,600	35,625
Tongs:								
Oyster, natural	398,435	8,905	3,641,414	99,855	984,375	22,385	5,019,224	131,095
Oyster, private	204,750	7,650	120,225	4,825			324,975	12,475
Total.....	598,185	16,555	3,761,639	104,680	984,375	22,385	5,344,199	143,570
Minor apparatus:								
Crab, hard	1,600	60	4,833	150			6,433	210
Crab, soft			18,233	1,930	12,000	900	30,233	2,830
Terrapin	650	280	3,420	1,803			4,070	1,683
Total.....	2,250	340	26,486	3,883	12,000	900	40,736	4,623
Grand total	1,809,174	46,206	7,716,565	191,480	1,128,740	27,787	10,654,479	265,473

THE WHOLESALE FISHERY TRADE.

The wholesale trade in fishery products in Mississippi in 1902 was conducted by 28 establishments, including 9 oyster and shrimp canneries, 3 wholesale fish firms, and 16 shippers of opened oysters, shrimp, terrapin, and crabs. Opened oysters were also shipped by the canners and fish firms. The total number of persons employed in these establishments was 2,640; the amount of wages paid during the year was \$245,950; the investment in shore and accessory property, \$665,492; the cash capital utilized, \$160,200; and the value of the products sold, \$1,453,757.

At Biloxi, where the canning industry chiefly centers, there were 5 oyster and shrimp canneries, having a value, in shore and accessory property, of \$389,120, and a cash capital of \$44,000. The number of persons employed was 1,302, to whom \$97,000 were paid in wages.

Most of the employees were Bohemians, who are brought from Baltimore each year and sent back at the close of the season. These canneries use the latest improved machinery, which reduces the number of persons needed to a minimum, most of those employed being engaged in unloading and shucking oysters. An establishment of average capacity can put up 42,000 cans by machinery in ten hours, which is equivalent to the labor of 30 men for the same length of time. Oysters are put up in 1 and 2 pound cans; dry and pickled shrimp in 1 and 1½ pound cans. Large quantities of shrimp are also put up in 1, 2, 3, 4, and 5 gallon cans, hermetically sealed, but not processed, as are the 1 and 1½ pound cans. By the use of preservaline the contents of these packages remain in good condition for several months. One of the canneries at Biloxi puts up hard crabs in 1 and 2 pound cans. This establishment also has a separate building with machinery for grinding oyster shells to different degrees of fineness according to the uses to be made of the product, the most common of which are for poultry food, concrete walks, imitation granite for fences, and fertilizer. Experiments are in progress with a view to finding additional uses for it. A large business is also conducted at Biloxi in shipping opened oysters in 2, 3, and 5 gallon buckets, holding from 500 to 1,250 oysters in number. Opened oysters are usually divided into four grades, namely, "plants," "extra selects," "selects," and "reefers."

The remainder of the canneries in the state, 1 at Bay St. Louis, 1 at Pass Christian, 1 at Gulfport, and one at Scranton, represented in 1902 an investment of \$311,047 in shore and accessory property, and of \$95,000 in cash capital. The number of persons employed was 950, most of whom, as at Biloxi, were Bohemians. The amount of wages paid during the year was \$62,800. Oysters were canned in all of these canneries, and shrimp in all except the one at Scranton, which was started too late in the fall for the latter product.

The three firms handling fish at wholesale are located at Scranton. The quantity of products sold in 1902 was 790,800 pounds, having a value of \$34,259. The fish are shipped to Mobile, Ala., and other cities in this region.

464 REPORT OF COMMISSIONER OF FISH AND FISHERIES.

The following table gives the extent of the wholesale trade in fishery products in Mississippi in 1902:

Table showing the extent of the canning industry and wholesale trade in fishery products in Mississippi in 1902.

Items.	Bay St. Louis, Pass Christian, and Gulf Port.		Biloxi.		Scranton and Ocean Springs.		Total.	
	No.	Value.	No.	Value.	No.	Value.	No.	Value.
Establishments	11	\$248,237	10	\$397,275	7	\$19,980	28	\$665,492
Cash capital		57,600		50,600		22,000		160,200
Wages paid		70,250		124,300		16,600		211,150
Persons engaged	1,076		1,411		188		2,640	
Products received:								
Oysters	347,688	190,972	524,850	218,750	28,300	20,765	900,838	425,487
Shrimp	12,103	81,258	15,400	60,100	150	525	27,658	91,883
Crabs			273,420	1,189	128,600	850	402,020	1,489
Terrapin			7,234	4,115			7,234	4,115
Fish					876,000	21,900	876,000	21,900
Products as sold:								
Oysters—								
Opened, plants	1,925,000	10,579	5,600,000	88,781	1,605,000	11,480	9,131,000	60,790
Opened, extra selects, number	2,084,000	7,293	7,862,500	29,235	1,025,000	3,845	10,471,500	40,373
Opened, selects	6,453,500	19,910	21,625,000	73,685	7,700,000	26,640	85,778,500	120,235
Opened, reefers	2,426,500	5,980	2,662,500	5,325	5,080,000	5,200	7,169,000	16,505
Canned, 1-lb. cans. do.	2,728,000	171,380	5,369,397	800,404	61,765	8,603	8,169,182	475,387
Canned, 2-lb. cans. do.	999,000	122,325	8,141,362	387,459	18,530	1,930	4,158,892	461,714
Shells	551,114	6,022	150,000	2,000			701,114	8,022
Shrimp—								
Whole					160	675	160	675
Headless	28,250	13,277	40,418	18,324			68,668	31,601
Peeled	2,275	1,500	2,355	1,534			4,630	3,034
Canned, 1-lb. cans, dry, number	428,500	28,455	222,292	14,340			650,792	42,796
Canned, 1½-lb. cans, dry, number	831,000	45,530	319,989	41,495			650,989	87,025
Canned, 1-lb. cans, pickled, number	20,000	1,410	761,876	49,490			781,876	50,900
Canned, 1½-lb. cans, pickled, no.			63,033	8,404			63,033	8,404
Crabs, whole					106,900	556	106,900	555
Terrapin			7,234	11,483			7,234	11,483
Fish—								
Black bass					12,000	840	12,000	840
Blue-fish					11,000	495	11,000	495
Buffalo-fish					3,000	90	3,000	90
Cat-fish					16,000	610	16,000	610
Channel bass or red-fish, pounds					45,000	2,475	45,000	2,475
Croakers					26,500	965	26,500	965
Drum					7,000	330	7,000	330
Flounders					18,000	780	18,000	780
Mullet					820,000	8,800	820,000	8,800
Pompano					4,500	405	4,500	405
Sea bass					2,500	170	2,500	170
Sheepshead					81,000	1,860	31,000	1,860
Spade-fish					500	16	500	16
Spanish mackerel					4,500	355	4,500	355
Spots					12,000	420	12,000	420
Sturgeon					4,500	250	4,500	250
Sun-fish					5,800	308	5,800	308
Trout, speckled					215,000	12,900	215,000	12,900
Trout, white					49,000	1,860	49,000	1,860
Whiting					8,000	330	8,000	330
Value of products sold		483,681		931,909		88,187		1,453,757

^aThese crabs were put up in 1 and 2 pound cans. As there was only one firm at Biloxi engaged in canning crabs, the quantity and value of the canned product are omitted from the table.

FISHERIES OF LOUISIANA.

The returns for the fisheries of Louisiana in 1902 compare favorably with those of any previous year. In respect to number of persons employed in fishing, the returns differ little from those for 1897 or for 1890, but the number of shoresmen has increased considerably owing to the establishment of new canneries and oyster-shucking houses. For the same reason the investment in the fishery industries shows an increase. The total value of the product, \$858,314, is larger than that of any other year for which there are complete returns. In 1897 it was \$713,587; in 1890, \$681,284, and in 1880, \$392,610. This increase has been contributed by nearly every branch of the fisheries.

The oyster industry, the most important branch of the fisheries of this state as well as of the United States, shows a larger yield than in 1897, increasing from 959,190 bushels, worth \$432,668, to 1,198,413 bushels, worth \$493,227. In 1890 it was only 440,800 bushels, worth \$127,990. The growth of this industry is due to an increased demand rather than to a greater abundance on the reefs. The cultivation of oysters is attracting much attention in Louisiana, and well-directed efforts are now being made to develop profitable use of the grounds at present unproductive.

The seine fishery shows a very large increase since 1897, especially in the product, increasing from 6,554,749 pounds, worth \$173,454, to 12,565,415 pounds, worth \$251,826. The yield of shrimp contributed the bulk of this, the catch being 7,589,220 pounds, worth \$130,560, whereas in 1897 it was only 4,402,626 pounds, worth \$78,792. The catch of buffalo-fish is also much larger, being 2,671,860 pounds in 1902 as against 147,200 pounds in 1897. The trout yield has more than doubled, increasing from 498,783 pounds in 1897 to 1,057,840 pounds in 1902. Channel bass and sheepshead, which come next in importance, show little change in either quantity or value. The quantity of Spanish mackerel is less. In 1897, 50,505 pounds of this species was taken by seines, whereas in 1902 the catch was only 5,500 pounds.

The increase in the catch by lines has been very much less than in either the seine fishery or the oyster industry. Indeed there has been a small decrease in the weight of the line catch since 1897, from 3,149,724 to 3,096,665 pounds, but this is offset by an increase in the value from \$63,935 to \$77,454, due principally to the enhanced price per pound of the catfish taken at Morgan City and Melville.

The yield of alligator hides shows a slight decrease in number since 1897, from 41,092, worth \$22,096, to 38,968, worth \$23,132. The number reported in 1889 was 74,240, worth \$38,185. The average length of the hides has greatly decreased, a large percentage of those taken at present measuring 3 feet and under, whereas the taking of

466 REPORT OF COMMISSIONER OF FISH AND FISHERIES.

such as these was unusual six years ago. Hides of more than 5 feet in length are now quite scarce.

The number of crabs taken has decreased from 4,376,500 in 1897 to 3,936,405 in 1902, but the value has increased from \$12,891 to \$16,025. The catch consists principally of hard crabs taken in Jefferson, Orleans, and St. Bernard parishes: In the vicinity of New Orleans a few soft crabs are taken, but not by any means so many as the conditions seem to warrant.

The following series of tables shows the number of persons employed in the fisheries of Louisiana in 1902; the number and value of vessels, boats, and apparatus used; the amount of capital invested, and the quantity and value of the products.

Persons employed.

How engaged.	No.
On vessels fishing	109
On vessels transporting	87
In shore or boat fisheries.....	3,570
Shoresmen	1,261
Total	5,027

Table of apparatus and capital.

Items.	No.	Value.	Items.	No.	Value.
Vessels fishing	35	\$17,795	Apparatus—shore fisheries:		
Tonnage	217		Seines.....	146	\$17,795
Outfit		7,615	Fyke nets.....	114	606
Vessels transporting	42	21,800	Minor nets.....	2,400	610
Tonnage	251		Lines.....		6,253
Outfit		5,920	Tongs.....	1,781	8,881
Boats	2,968	240,203	Shore and accessory property..		333,935
Apparatus—vessel fisheries:			Cash capital		126,950
Seines.....	9	990	Total.....		789,723
Lines.....		30			
Tongs.....	67	337			

Table of products.

Species.	Lbs.	Value.	Species.	Lbs.	Value.
Black bass	18,940	\$1,328	Spanish mackerel	6,050	\$607
Blue-fish	100	6	Sun-fish.....	7,900	246
Buffalo-fish.....	2,887,860	23,919	TROUT.....	1,078,240	49,071
Cat-fish.....	2,051,365	63,024	Yellow-tail	6,120	245
Channel bass.....	441,595	19,961	Miscellaneous fish.....	31,400	1,164
Crevaille.....	3,160	113	Oyster.....	a 8,388,891	493,227
Croaker.....	154,860	7,185	Shrimp.....	7,634,720	131,715
Drum, fresh-water	8,500	85	Crab, hard.....	b 1,312,135	16,025
Drum, salt-water.....	51,280	1,302	Crawfish.....	16,000	615
Flounder.....	2,100	129	Terrapin.....	30,589	6,439
Mullet.....	122,710	3,884	Turtle.....	5,140	199
Pompano.....	3,230	850	Alligator hides	c 194,840	23,132
Sheepshead.....	238,560	11,381	Total.....	24,754,135	858,814
Silver-perch.....	62,850	3,009			

a 1,198,413 bushels.

b 3,936,405 in number.

c 38,968 in number.

STATISTICS BY COUNTIES.

In Louisiana there are twenty-one counties, or parishes, in which coast fisheries of commercial importance are prosecuted. The more important of these are Jefferson, Lafourche, Orleans, Plaquemines, St. Bernard, St. Landry, St. Mary, and Terrebonne.

Following are three tables giving the extent of the fisheries, by counties:

Table showing, by counties, the number of persons employed in the fisheries of Louisiana in 1902.

Parish or county.	On vessels fishing.	On vessels transporting.	Shore or boat fishermen.	Shoresmen.	Total.
Calcasieu			12		12
Cameron			87		37
Jefferson			521	62	583
Lafourche	2	2	369		378
Orleans	29	2	440	819	1,290
Plaquemines	8	4	630	104	746
St. Bernard			138		138
St. Charles			12		12
St. John the Baptist			4		4
St. Landry ^a			184		184
St. Mary ^b	62	89	671	157	929
St. Tammany			24		24
Tangipahoa			16		16
Terrebonne	8	82	470	119	629
Vermilion		8	42		50
*Total	109	87	8,570	1,261	5,027

^a Includes the parishes of Pointe Coupee, Iberville, Avoyelles, and a portion of St. Martin.
^b Includes the parishes of Assumption, Iberia, and portions of Iberville and St. Martin.

Table showing, by counties, the vessels, boats, and apparatus employed in the fisheries of Louisiana in 1902.

Items.	Calcasieu.		Cameron.		Jefferson.		Lafourche.		Orleans.	
	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.
Vessels fishing							1	\$400	6	\$5,650
Tonnage							5		42	
Outfit							1	120	7	2,175
Vessels transporting							5	500	1	500
Tonnage								100	7	100
Boats	12	\$215	36	\$792	179	\$34,285	226	20,710	362	36,155
Apparatus—vessel fisheries:										
Sines									1	240
Tongs							2	11	21	105
Apparatus—shore fisheries:										
Sines			5	490	46	9,715	12	1,935	44	2,320
Fyke nets	12	95								550
Minor nets				50		645			2,200	130
Lines		80		100	40	196	265	1,325	180	900
Tongs			20	100		36,510		4,100		187,000
Shore and accessory property		200		400		13,700				66,000
Cash capital										
Total		591		1,832		95,051		29,201		801,825

468 REPORT OF COMMISSIONER OF FISH AND FISHERIES.

Table showing, by counties, the vessels, boats, and apparatus employed in the fisheries of Louisiana in 1902—Continued.

Items.	Plaquemines.		St. Bernard.		St. John Baptist.		St. Charles.		St. Landry.		St. Mary.	
	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.
Vessels fishing	2	\$1,600									23	\$8,845
Tonnage	14										139	
Outfit		590										4,293
Vessels transporting	2	1,110									18	11,870
Tonnage	14										107	
Outfit		160										3,810
Boats	797	86,233	82	\$2,935	2	\$150	5	\$500	188	\$2,878	632	21,252
Apparatus—vessel fisheries:												
Seine											7	650
Lines												30
Tongs	8	41										160
Apparatus—shore fisheries:												
Seine			21	2,018	1	100	3	360			4	220
Fyke nets									102	610		
Minor nets	200	60										
Lines		70		96								4,250
Tongs	615	3,075	2	10							192	960
Shore and accessory property		62,400		1,000		40		150		3,500		20,995
Cash capital		15,000										20,500
Total		170,339		6,059		290		1,010		7,724		97,835

Items.	St. Tammany.		Tangipahoa.		Terrebonne.		Vermilion.		Total.	
	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.
Vessels fishing					3	\$1,300			85	\$17,795
Tonnage					17				217	
Outfit						437				7,615
Vessels transporting					16	6,270	4	\$1,550	42	21,800
Tonnage					95		23		251	
Outfit						1,610		240		5,920
Boats	23	\$900	14	\$320	382	29,978	28	2,900	2,968	240,203
Apparatus—vessel fisheries:										
Seine					1	100			9	990
Lines										30
Tongs					4	20			67	837
Apparatus—shore fisheries:										
Seine	4	200	1	50	5	390			146	17,798
Fyke nets									114	606
Minor nets									2,400	610
Lines		40		18				38		6,253
Tongs					430	2,150	33	165	1,781	8,881
Shore and accessory property		100		100		17,050		390		334,935
Cash capital						11,750				126,950
Total		1,240		488		70,955		5,283		789,723

Table showing, by counties and species, the yield of the fisheries of Louisiana in 1902.

Species.	Calcasieu.		Cameron.		Jefferson.		Lafourche.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Buffalo-fish	19,500	\$510	4,000	\$60	1,426,200	\$10,696	416,500	\$3,890
Cat-fish	12,000	575	35,200	1,055	121,970	2,360	17,250	517
Channel bass			500	25	120,500	4,960	16,240	812
Croaker			400	20	43,200	1,606	7,850	294
Drum, salt-water					22,000	410		
Flounder			800	48				
Mullet			1,000	20	20,500	485	16,000	480
Pompano					1,500	150	300	86
Sheepshead			10,000	300	92,600	4,640	12,500	625
Spanish mackerel					2,250	225	600	60
Trout			14,300	846	663,950	27,990	55,900	2,765
Miscellaneous fish					24,000	700		
Oyster			16,800	600	134,400	9,385	1,176,315	55,700
Shrimp			900	54	6,561,470	107,365	885,700	19,410
Crab					919,067	10,655		
Terrapin		1,000		120	4,214	1,187	2,250	285
Turtle		2,000		50	1,200			
Alligator					31,200	3,846	34,350	4,180
Total	31,500	1,085	89,900	3,198	10,186,221	187,884	2,641,155	88,494

Table showing, by counties and species, the yield of the fisheries of Louisiana in 1902—Continued.

Species.	Orleans.		Plaquemines.		St. Bernard.		St. Charles.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Black bass	80	\$8			18,860	\$1,820		
Blue-fish	109	6						
Buffalo-fish	40,160	853	6,000	\$110	5,000	100	612,000	\$4,590
Cat-fish	20,220	1,116	85,100	1,702	28,980	797	15,000	450
Channel bass	160,205	8,021			52,800	2,640		
Crevalle	3,160	113						
Croaker	56,250	3,096	3,000	120	15,000	600		
Drum, salt-water	3,480	139			18,500	600		
Flounder	300	21			1,000	60		
Mullet	67,160	2,601			3,400	85		
Pompano	960	115			200	20		
Sheepshead	16,050	1,063	800	48	35,710	2,010		
Silver perch	700	29			62,150	2,980		
Spanish mackerel	1,320	132			800	80		
Sun-fish	3,200	128			4,400	110		
Trout	55,300	3,433	2,000	100	173,610	9,584		
Yellow-tail	6,120	245						
Miscellaneous fish	6,500	410			900	54		
Oyster	1,250,550	58,710	2,539,614	205,616	8,400	490		
Shrimp	17,500	625	28,000	680	17,000	880		
Crab	303,385	3,870			79,733	1,340		
Crawfish	16,000	615						
Terrapin	720	140	600	120	4,120	760		
Turtle					1,440	115	500	10
Total	2,029,370	85,389	2,665,114	208,446	532,033	24,125	627,500	5,050

Species.	St. John Baptist.		St. Landry.		St. Mary.		St. Tammany.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Buffalo-fish	150,000	\$1,125	93,500	\$935	92,000	\$1,150	7,500	\$160
Cat-fish			254,660	8,207	1,425,185	44,819	16,400	676
Channel bass					52,900	2,116	4,150	290
Croaker					6,510	246	14,250	870
Drum, fresh-water			3,500	35				
Drum, salt-water					5,500	122		
Mullet					5,150	103	2,000	80
Pompano					50	6		
Sheepshead					45,700	1,828	1,000	70
Spanish mackerel					730	75		
Sun-fish					300	8		
Trout					68,400	2,738	3,850	262
Oyster					951,342	47,308		
Shrimp					72,850	1,656		
Crab							10,900	160
Terrapin					7,500	2,250		
Alligator			47,000	5,020	56,090	6,566		
Total	150,000	1,125	398,560	14,797	2,790,207	110,891	59,150	2,568

Species.	Tangipahoa.		Terrebonne.		Vermilion.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Black bass							18,940	\$1,328
Blue-fish							100	6
Buffalo-fish	5,500	\$105	5,000	\$70	5,000	\$125	2,887,860	23,919
Cat-fish	10,500	390			9,000	360	2,051,365	63,024
Channel bass			34,300	1,097			441,595	19,961
Crevalle							3,160	113
Croaker	5,000	240	3,400	96			154,860	7,188
Drum, fresh-water							3,500	35
Drum, salt-water			1,800	31			51,250	1,302
Flounder							2,100	129
Mullet			1,500	30			122,710	3,884
Pompano			220	23			3,230	850
Sheepshead	700	47	23,500	750			238,560	11,381
Silver perch							62,850	3,009
Spanish mackerel			350	35			6,050	607
Sun-fish							7,900	246
Trout	1,150	69	40,360	1,284			1,078,240	49,071
Yellow-tail							6,120	245
Miscellaneous fish							31,400	1,164
Oyster			2,182,110	108,658	129,360	6,160	8,888,891	493,227
Shrimp			61,800	1,195			7,634,720	131,715
Crab							1,312,135	16,025
Crawfish							16,000	615
Terrapin			7,185	1,577			80,589	6,489
Turtle							5,140	199
Alligator			21,800	2,430	4,900	490	194,840	23,132
Total	22,850	851	2,382,315	117,276	148,260	7,135	24,754,135	858,314

THE PRODUCTS BY APPARATUS.

The yield of the vessel fisheries of Louisiana, including all species, was 653,845 pounds, valued at \$27,000, and of the shore fisheries, 24,100,290 pounds, valued at \$831,314. The principal kinds of fishing apparatus employed on vessels and boats were seines, fyke nets, lines, and oyster tongs. Considerable quantities of products were also taken with various other appliances.

The following tables give, by counties and species, the quantity and value of the catch taken with each form of apparatus in the vessel and shore fisheries:

Table showing, by counties, apparatus, and species, the yield of the vessel fisheries of Louisiana in 1902.

Apparatus and species.	Lafourche.		Orleans.		Plaquemines.		St. Mary.		Terrebonne.		Total.	
	Lbs.	Val.	Lbs.	Val.	Lbs.	Val.	Lbs.	Value.	Lbs.	Val.	Lbs.	Val.
Seines:												
Buffalo-fish			860	\$17							860	\$17
Cat-fish			1,120	51			19,000	\$472			20,120	523
Channel bass			28,286	1,215			38,400	1,536	2,800	\$112	69,485	2,863
Crevalle			1,360	76							1,360	75
Croaker			2,040	123			4,710	174	400	16	7,150	313
Drum, salt water			580	23			4,500	102	300	6	5,380	131
Flounders			50	4							50	4
Mullet			3,560	107			3,950	79	800	6	7,810	192
Pompano			160	19					20	8	1,180	22
Sheepshead			1,500	90			34,200	1,368	2,000	80	87,700	1,538
Silver perch			100	5							100	5
Spanish mackerel			220	22			530	55	100	10	850	87
Sun-fish							200	4			200	4
Trout			7,300	438			50,400	2,018	3,600	144	61,300	2,600
Yellow-tail			1,000	40							1,000	40
Shrimp							40,850	886	16,000	320	56,850	1,206
Terrapin			120	20							120	20
Total			48,255	2,249			196,740	6,694	25,520	697	270,515	9,640
Lines:												
Cat-fish							43,000	1,435			43,000	1,435
Tongs:												
Oyster	10,500	\$525	157,150	6,950	57,750	\$2,720	99,120	4,935	15,750	795	340,270	15,925
Grand total ..	10,500	525	205,405	9,199	57,750	2,720	338,920	13,064	41,270	1,492	653,845	27,000

Table showing, by counties, apparatus, and species, the yield of the shore fisheries of Louisiana in 1902.

Apparatus and species.	Calcasieu.		Cameron.		Jefferson.		Lafourche.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Seines:								
Buffalo-fish			4,000	\$60	1,425,200	\$10,696	416,500	\$3,330
Cat-fish			3,500	105	88,400	115	17,250	517
Channel bass or red-fish			500	25	120,500	4,950	16,240	812
Croaker			400	20	42,800	1,590	7,850	294
Drum, salt water					22,000	410		
Flounder			800	48				
Mullet			1,000	20	25,500	485	16,000	480
Pompano					1,500	150	800	86
Sheepshead			10,000	300	92,600	4,640	12,500	625
Spanish mackerel					2,000	200	600	60
Trout			14,300	846	660,450	27,815	55,300	2,765
Other fish					22,000	600		
Shrimp			800	54	6,551,470	107,965	885,700	19,410
Terrapin			4,000	120				
Turtle					1,200	24		
Total			39,400	1,598	9,007,620	159,650	1,428,240	28,829

Table showing, by counties, apparatus, and species, the yield of the shore fisheries of Louisiana in 1902—Continued.

Apparatus and species.	Calcasieu.		Cameron.		Jefferson.		Lafourche.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Fyke nets:								
Buffalo-fish	7,500	\$210						
Cat-fish	2,500	125						
Total	10,000	335						
Lines:								
Buffalo-fish	12,000	800						
Cat-fish	9,500	450	81,700	950	83,570	2,245		
Croaker					400	16		
Spanish mackerel					250	25		
Trout					3,500	175		
Other fish					2,000	100		
Crab					919,067	10,655		
Turtle			2,000	50				
Total	21,500	760	33,700	1,000	1,008,787	13,216		
Minor apparatus:								
Terrapin					4,214	1,187	2,250	285
Alligator hides					31,200	3,846	34,350	4,180
Total					35,414	5,033	36,600	4,465
Tongs:								
Oyster			16,800	600	134,400	9,985	1,165,815	55,175
Grand total	31,500	1,085	89,900	3,198	10,186,221	187,884	2,630,655	87,969

Apparatus and species.	Orleans.		Plaquemines.		St. Bernard.		St. Charles.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Seines:								
Black bass	80	\$8			18,860	\$1,320		
Blue-fish	100	6						
Buffalo-fish	39,800	836			5,000	100	612,000	\$4,590
Cat-fish	9,600	495			20,480	542	15,000	450
Channel bass or red-fish	130,420	6,701			52,800	2,640		
Crevalle	1,800	88						
Croaker	26,210	1,583			13,000	520		
Drum, salt-water	2,900	116			18,500	600		
Flounder	250	17			1,000	60		
Mullet	62,800	2,454			3,400	85		
Pompano	800	96			200	20		
Sheepshead	10,550	698			33,210	1,860		
Silver perch	600	24			62,150	2,980		
Spanish mackerel	1,100	110			600	50		
Sun-fish	3,200	128			4,400	110		
Trout	41,500	2,540			169,240	9,320		
Yellow-tail	5,120	205						
Other fish	4,500	290			800	18		
Shrimp					17,000	380		
Terrapin	600	120			4,120	760		
Turtle					1,440	115	500	10
Total	341,430	16,410			425,600	21,480	627,500	5,050
Lines:								
Cat fish	9,500	570	83,600	\$1,672	8,500	255		
Channel bass or red-fish	1,500	105						
Croaker	28,000	1,440	8,000	120	2,000	80		
Mullet	800	40						
Sheepshead	4,000	280	800	48	2,500	150		
Spanish mackerel					800	80		
Trout	6,500	455	2,000	100	4,400	264		
Other fish	2,000	120			600	36		
Crab					79,733	1,340		
Total	52,300	3,010	89,400	1,940	98,033	2,155		
Minor apparatus:								
Buffalo-fish			6,000	110				
Cat-fish			1,500	30				
Shrimp	17,500	525	28,000	630				
Crab	308,335	3,870						
Crawfish	16,000	615						
Terrapin			600	120				
Total	336,335	5,010	36,100	890				
Tongs:								
Oyster	1,093,400	51,780	2,481,804	202,896	8,400	490		
Grand total	1,823,965	76,190	2,607,364	205,726	532,083	24,125	627,500	5,050

472 REPORT OF COMMISSIONER OF FISH AND FISHERIES.

Table showing, by counties, apparatus, and species, the yield of the shore fisheries of Louisiana in 1902—Continued.

Apparatus and species.	St. John Baptist.		St. Landry.		St. Mary.		St. Tammany.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Seines:								
Buffalo-fish	150,000	\$1,125					7,500	\$160
Cat-fish					6,500	\$145	6,400	276
Channel bass or red-fish					14,500	580	4,150	290
Croaker					1,800	72	8,250	510
Drum, salt-water					1,000	20		
Mullet					1,200	24	2,000	80
Pompano					50	6		
Sheepshead					11,500	460	1,000	70
Spanish mackerel					200	20		
Sun-fish					100	4		
Trout					18,000	720	850	52
Shrimp					32,000	670		
Total	150,000	1,125			86,850	2,721	30,150	1,488
Fyke nets:								
Buffalo-fish			93,500	\$935				
Cat-fish			7,800	266				
Drum, fresh-water			3,500	35				
Total			104,800	1,236				
Lines:								
Buffalo-fish					92,000	1,150		
Cat-fish			246,760	7,941	1,356,625	42,767	10,000	400
Croaker							6,000	360
Trout							3,000	210
Crab							10,000	160
Total			246,760	7,941	1,448,625	43,917	29,000	1,130
Minor apparatus:								
Terrapin					7,500	2,250		
Alligator hides			47,000	5,620	56,090	6,566		
Total			47,000	5,620	63,590	8,816		
Tongs:								
Oyster					852,222	42,373		
Grand total	150,000	1,125	398,560	14,797	2,461,287	97,827	59,150	2,568

Apparatus and species.	Tangipahoa.		Terrebonne.		Vermillion.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Seines:								
Black bass							18,940	\$1,828
Blue-fish							100	6
Buffalo-fish	5,500	\$105	5,000	\$70			2,671,000	21,072
Cat-fish	2,500	110					119,630	2,755
Channel bass or red-fish			31,500	985			370,610	16,993
Crevalle							1,800	88
Croaker	3,000	140	3,000	80			106,810	4,759
Drum, salt-water			1,500	25			45,900	1,171
Flounder							2,050	125
Mullet			1,200	24			114,100	3,652
Pompano			200	20			3,050	328
Sheepshead	200	12	21,500	670			193,060	9,330
Silver perch							62,750	3,004
Spanish mackerel			250	25			4,650	465
Sun-fish							7,700	242
Trout	150	9	36,750	1,140			996,540	45,207
Yellow-tail							5,120	205
Other fish							26,800	908
Shrimp			45,300	875			7,532,370	129,354
Terrapin			560	95			9,280	1,095
Turtle							3,140	149
Total	11,350	376	146,760	4,009			12,294,900	242,186
Fyke nets:								
Buffalo-fish							101,000	1,145
Cat-fish							10,300	391
Drum, fresh-water							8,500	35
Total							114,800	1,571

Table showing, by counties, apparatus, and species, the yield of the shore fisheries of Louisiana in 1902—Continued.

Apparatus and species.	Tangipahoa.		Terrebonne.		Vermilion.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Lines:								
Buffalo-fish					5,000	\$125	109,000	\$1,675
Cat-fish	8,000	\$280			9,000	360	1,850,755	57,890
Channel bass or red-fish							1,500	105
Croaker	2,000	100					41,400	2,116
Mullet							800	40
Sheepshead	500	35					7,800	513
Spanish mackerel							550	55
Trout	1,000	60					20,400	1,264
Other fish							4,600	256
Crab							1,008,800	12,155
Turtle							2,000	50
Total.....	11,500	475			14,000	485	8,053,605	76,019
Minor apparatus:								
Buffalo-fish							6,000	110
Cat-fish							1,500	30
Shrimp							45,500	1,155
Crab							303,835	3,870
Crawfish							16,000	615
Terrapin			6,025	\$1,482			21,189	5,824
Alligator hides			21,300	2,430	4,900	490	194,840	23,132
Total.....			27,925	3,912	4,900	490	588,364	34,236
Tongs:								
Oyster			2,166,360	107,863	129,360	6,160	8,048,621	477,302
Grand total.....	22,850	851	2,341,045	115,784	148,260	7,195	24,100,290	831,314

Table showing the wholesale trade in fishery products for Louisiana in 1902.

Items.	Morgan City.	Houma.	Barataria section.	New Orleans and elsewhere.	Total.
Establishments.....	6	6	6	8	26
Value	\$13,975	\$13,050	\$30,710	\$230,800	\$288,535
Cash capital	\$20,500	\$11,750	\$13,700	\$31,000	\$126,950
Employees	157	119	62	923	1,261
Products received:					
Oysters	bushels.. 19,220			178,750	197,970
Value	\$4,830			\$49,500	\$54,330
Shrimp	pounds.. 56,000		3,389,450	3,695,787	7,141,237
Value	\$1,120		\$29,131	\$72,230	\$102,481
Fish	pounds.. ..		191,250		191,250
Value			\$2,677		\$2,677
Products as sold:					
Oysters, canned—					
1-pound cans.....	number.. 128,920			975,000	1,103,920
Value	\$3,379			\$75,312	\$78,691
2-pound cans.....	number.. ..			325,000	325,000
Value				\$39,687	\$39,687
Shrimp, canned—					
1-pound cans, dry	number.. 62,200			829,648	891,848
Value	\$4,043			\$58,600	\$62,643
1-pound cans, wet	number.. ..			\$75,864	\$75,864
Value				\$61,846	\$61,846
2-pound cans, dry	number.. ..			1,005,352	1,005,352
Value				\$142,091	\$142,091
2-pound cans, wet	number.. ..			28,824	28,824
Value				\$4,083	\$4,083
Shrimp, dried.....	pounds.. ..			371,350	371,350
Value				\$51,603	\$51,603
Shrimp, shells, dried.....	pounds.. ..			24,000	24,000
Value				\$60	\$60
Fish, dried.....	pounds.. ..			95,750	95,750
Value				\$6,222	\$6,222

NOTE.—The above does not include the fresh fish, shrimp, and oysters handled in the wholesale trade, but only the canned and dried products prepared.

FISHERIES OF TEXAS.

Considering the great length of the coast line of Texas and the area of the coastal waters, the fisheries of this state are of relatively small extent. This is due principally to the remoteness of markets and the generally undeveloped industrial condition of the coast sections.

There are three principal fisheries in the state, namely, the bay-seine fishery, yielding \$129,667 worth of products in 1902; the red snapper fishery, yielding \$106,400, and the oyster fishery, valued at \$100,359. The remaining \$17,388 worth of products consisted of flounders taken by spears, \$5,726; fish, taken by lines, \$4,862; green turtle, taken by nets, \$2,618; fish and shrimp, taken by cast nets, \$2,160, and hard crabs, \$2,022.

Compared with 1897, the seine fishery shows a slight decrease. The number of seines used in that year was 171, with a value of \$18,279, whereas in 1902 it was 166, with a value of \$16,735. The decrease in yield was slightly greater, namely, from 3,561,035 pounds, selling for \$153,070, to 3,049,860 pounds, worth \$129,667. The largest decrease has been in the yield of channel bass, from 1,129,676 pounds, worth \$51,212 in 1897, to 881,150 pounds, worth \$38,808 in 1902. Other decreases were in sheepshead, from 464,024 pounds, worth \$21,514, to 217,330 pounds, worth \$9,739; croakers, from 134,700 pounds, worth \$5,947, to 57,050 pounds, worth \$2,368; mullet, from 39,250 pounds, worth \$1,445, to 11,600 pounds, worth \$276. On the other hand there was an increase in the seine catch of trout from 994,520 pounds in 1897, to 1,075,800 in 1902; drum, from 50,400 to 157,400 pounds; pike, from 22,730 to 57,300 pounds; and Spanish mackerel, from 40,710 pounds, worth \$1,939 in 1897, to 55,330 pounds, worth \$4,069 in 1902.

A small decrease occurred in the yield of oysters during the interval between the two years under comparison, but this was more than offset by an increase in the value. In 1897 the yield was 355,910 bushels, worth \$94,663, whereas in 1902 it was 343,113 bushels, for which the fishermen received \$100,359. The development of oyster culture in this state, which seemed so promising a few years ago, is receiving little attention at the present time.

The red-snapper fishery presents the most interesting feature in connection with the recent development in the fisheries of Texas. In 1890 the yield of this species was only 4,800 pounds, worth \$240; in 1897 it was 464,791 pounds, worth \$17,453, and in 1902 it was further increased to 2,067,987 pounds, worth \$103,398. At the close of 1902 there were 15 vessels engaged in this fishery, with good prospect of a considerable extension. The greater number of the vessels are of the best type of schooner rig, measuring about 40 tons, and carrying a crew of 10 men each. The fishing grounds are located several hundred miles south of Galveston. In addition to the catch of red

snapper, these vessels caught 60,222 pounds of jew-fish and 40,169 pounds of groupers in the year covered by these returns.

An interesting attempt was made in 1902 to station these vessels on the fishing grounds and by means of a fast steamer carry supplies to them and transport the catch to market. The enterprise was not a success, however, due probably in a large measure to the fishermen's dislike to remaining away from port for a great length of time.

The yield of green turtle is rapidly decreasing on the Texas coast. In 1890 it amounted to 585,000 pounds, worth \$9,425; in 1897 it was 237,385 pounds, worth \$6,860, and in 1902 it was further reduced to 97,060 pounds, worth \$3,388. It will be observed that with the decrease in quantity there has been a corresponding increase in the value per pound. Relatively few turtle nets are now used, and the canning of turtle has been abandoned.

The quantity of fish taken by spears, cast nets, lines and dip nets, is insignificant and varies little from year to year. Indeed, these can scarcely be called professional fisheries, being prosecuted mainly at odd times and largely by boys. The total extent of these as well as of the fisheries mentioned above, is presented in the following series of tables, showing the number of persons engaged, the boats, apparatus, etc., employed, and the quantity and value of the products of the fisheries of Texas in 1902:

Table of persons employed in the fisheries of Texas in 1902.

How engaged.	No.
On vessels fishing	272
In shore or boat fisheries.....	783
On shore, in fish houses, etc	89
Total	1,144

Table of apparatus and capital.

Items.	No.	Value.	Items.	No.	Value.
Vessels fishing.....	62	\$107,655	Apparatus—shore fisheries—Con.		
Tonnage.....	939		Turtle nets	288	\$726
Outfit.....		25,286	Cast nets.....	115	357
Boats.....	561	58,964	Lines.....		110
Apparatus—vessel fisheries:			Dip nets	80	20
Seine.....	21	2,315	Spears.....	105	53
Lines.....		588	Tongs.....	225	1,208
Tongs.....	72	414	Shore and accessory property		79,050
Apparatus—shore fisheries:			Cash capital		82,500
Seine.....	145	14,420	Total.....		873,724

476 REPORT OF COMMISSIONER OF FISH AND FISHERIES.

Table of products.

Species.	Lbs.	Value.	Species.	Lbs.	Value.
Blue-fish	16,350	\$721	Red snapper	2,067,987	\$103,988
Buffalo-fish	6,000	320	Sheepshead	217,330	9,739
Cat-fish	75,000	3,189	Spanish mackerel	63,830	4,621
Channel bass	898,450	39,525	Trout	1,119,300	49,577
Crevalle	6,680	192	Whiting	41,700	1,586
Croaker	58,050	2,408	Other fish	21,650	722
Drum	157,400	3,188	Shrimp	290,815	8,556
Flounders	240,900	11,093	Crab	a 42,800	2,022
Groupers	40,169	1,195	Turtle	97,000	8,388
Hog-fish	4,900	204	Terrapin	5,850	765
Jew-fish	65,722	2,137	Oyster	b 2,401,791	100,359
Mullet	16,800	412			
Pike	57,300	2,239	Total	8,044,404	353,814
Pompano	30,570	2,238			

a 128,400 in number.

b 343,113 bushels.

STATISTICS BY COUNTIES.

There are ten counties in Texas having coast fisheries. Those in which the industry is of greatest importance being Aransas, Calhoun, Galveston, and Nueces. Statistics of the fisheries by counties are presented in the following tables:

Table showing, by counties, the number of persons employed in the fisheries of Texas in 1902.

Counties.	On vessels fishing.	Boat or shore fishermen.	Shores-men.	Total.
Aransas	5	187	11	203
Brazoria		23		23
Calhoun	74	59	39	172
Cameron		26		26
Chambers		13		13
Galveston	162	262	13	437
Harris	3	28		31
Jefferson		23		23
Matagorda	13	16		29
Nueces	15	146	26	187
Total	272	783	89	1,144

Table showing, by counties, the vessels, boats, and apparatus employed in the fisheries of Texas in 1902.

Items.	Aransas.		Brazoria.		Calhoun.		Cameron.		Chambers.		Galveston.	
	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.
Vessels fishing	1	\$700			23	\$10,125					27	\$90,880
Tonnage	9				139						708	
Outfit		395				6,178						15,746
Boats	113	13,660	28	\$2,443	36	4,623	18	\$960	15	\$1,639	208	23,700
Apparatus—vessel fisheries:												
Seines	1	110			14	1,505					2	250
Lines											21	573
Tongs					34	196						125
Apparatus—shore fisheries:												
Seines	39	4,035	4	350	12	1,280	6	440	2	180	47	4,965
Turtle nets	240	480					20	36				
Cast nets	15	45			12	38	10	30			80	90
Lines		12		10		10		20				20
Dip nets											80	20
Spears	10	5			5	3					50	25
Tongs	28	140	15	80	10	50	4	20	7	42	112	672
Shore and accessory property		8,500		200		10,800		200		100		44,700
Cash capital		8,500				14,500						50,000
Total		36,582		3,083		49,410		1,606		1,961		231,766

Table showing, by counties, the vessels, boats, and apparatus employed in the fisheries of Texas in 1902—Continued.

Items.	Harris.		Jefferson.		Matagorda.		Nueces.		Total.	
	No.	Value.	No.	Value.	No.	Value.	No.	Value.	No.	Value.
Vessels fishing	1	\$375			6	\$2,900	4	\$2,675	62	\$107,655
Tonnage	5				48		30		939	
Outfit		215				1,162		1,590		25,286
Boats	22	2,140	26	\$1,942	20	1,400	74	6,655	561	58,964
Apparatus—vessel fisheries:										
Seines	1	100					8	350	21	2,315
Lines		15							72	588
Tongs					13	73	4	20		414
Apparatus—shore fisheries:										
Seines	9	870	3	270	1	100	22	1,930	145	14,420
Turtle nets							28	210		726
Cast nets							48	154		357
Lines				36					2	110
Dip nets										20
Spears							40	20		53
Tongs	5	30	10	60	10	50	24	122	225	1,266
Shore and accessory property		200		400		100		13,750		79,050
Cash capital								9,500		82,500
Total		3,945		2,708		5,785		36,878		373,724

Table showing, by counties and species, the yield of the fisheries of Texas in 1902.

Species.	Aransas.		Brazoria.		Culhoun.		Cameron.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Blue-fish	10,000	\$400	200	\$8	600	\$24	100	\$4
Buffalo-fish					2,000	80		
Cat-fish	5,300	212	4,800	192	17,400	696	11,300	338
Channel bass	270,200	10,808	11,800	472	179,200	7,168	55,250	709
Crevalle	2,500	50					100	3
Croaker	9,500	190	500	20	4,100	161	2,000	25
Drum	152,000	3,010			600	24	100	2
Flounder	121,600	4,864	400	16	3,600	144	2,800	84
Hog-fish	2,600	104			300	12		
Mullet	7,600	164	600	24	500	20	2,600	60
Pike	86,200	1,448			4,200	168	6,500	174
Pompano	20,100	1,313	250	15	300	18		
Sheepshead	45,700	1,828	6,000	240	86,900	3,476	4,200	116
Spanish mackerel	46,450	3,017	300	18	650	33	500	28
Trout	266,400	10,656	17,000	680	133,700	5,348	64,200	1,129
Whiting	6,300	126						7
Other fish	12,100	279	500	20	2,800	110	200	400
Shrimp	9,200	368			2,700	108	25,500	60
Crab							2,000	50
Turtle	54,760	1,924			3,500	128	9,900	198
Terrapin	1,430	186			1,240	173		
Oyster	230,860	8,476	92,820	3,315	552,370	20,910	35,700	1,260
Total	1,310,800	49,453	185,170	5,020	996,560	38,801	222,950	4,577

478 REPORT OF COMMISSIONER OF FISH AND FISHERIES.

Table showing, by counties and species, the yield of the fisheries of Texas in 1902—Continued.

Species.	Chambers.		Galveston.		Harris.		Jefferson.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Blue-fish			3,050	\$183				
Buffalo-fish							4,000	\$240
Cat-fish			2,000	120	5,800	\$320	17,500	875
Channell bass	12,000	\$720	215,000	12,648	32,500	1,950	7,500	450
Crevalle			2,580	79				
Croaker	1,200	44	24,300	1,310	3,200	128	600	24
Drum			1,600	86			200	10
Flounder	400	24	60,800	3,432	3,850	231		
Grouper			40,169	1,195				
Hog-fish			400	24				
Jew-fish			65,722	2,137				
Mullet			3,200	96	1,000	30	100	4
Pike			1,000	60	700	35	300	18
Pompano			6,320	676				
Red snapper			2,067,987	103,398				
Sheepshead	2,400	144	34,800	2,088	18,280	875	3,500	210
Spanish mackerel	50	8	10,600	1,162	150	15	400	52
Trout	7,000	420	265,100	14,796	40,500	2,430	5,000	302
Whiting			35,400	1,470				
Other fish	200	12	2,300	164	600	30	250	12
Shrimp	2,000	80	127,600	5,054	2,400	96		
Crab			37,000	1,850				
Turtle			4,300	224				
Terrapin			2,460	320	120	26	600	60
Oyster	42,840	2,040	762,475	35,235	33,250	1,385	39,060	2,046
Total	68,120	3,492	3,766,663	187,757	139,350	7,551	79,010	4,303

Species.	Matagorda.		Nueces.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Blue-fish			2,400	\$102	16,350	\$721
Buffalo-fish					6,000	320
Cat-fish			10,900	436	75,000	3,189
Channell bass	5,200	\$208	109,800	4,892	898,460	39,525
Crevalle			1,500	60	6,680	192
Croaker	800	32	11,850	474	58,050	2,408
Drum			2,900	76	157,400	3,188
Flounder	600	24	56,850	2,274	240,900	11,093
Grouper					40,169	1,195
Hog-fish			1,600	64	4,900	204
Jew-fish					65,722	2,137
Mullet			1,200	24	16,800	412
Pike			8,400	386	57,300	2,239
Pompano			3,600	216	30,570	2,238
Red snapper					2,067,987	103,898
Sheepshead	3,400	156	15,150	606	217,330	9,739
Spanish mackerel	200	12	4,600	276	68,830	4,621
Trout	6,500	260	313,900	13,556	1,119,300	49,577
Whiting					41,700	1,596
Other fish			2,200	88	21,650	722
Shrimp			121,415	2,460	290,815	8,566
Crab			3,800	122	42,800	2,022
Turtle			24,600	914	97,060	3,388
Terrapin					5,850	765
Oyster	271,530	9,570	340,886	16,122	2,401,791	100,359
Total	288,230	10,262	1,037,551	42,598	8,044,404	353,814

THE PRODUCTS BY APPARATUS.

The apparatus of capture employed in the coast fisheries of Texas in 1902 consisted of seines, turtle nets, cast nets, lines, dip nets, spears, oyster tongs, and rakes. In the vessel fisheries only seines, lines, and tongs were used, and the catch aggregated 3,457,883 pounds, valued at \$159,839. The catch by boats in the shore fisheries was 4,586,521 pounds, valued at \$193,975. The leading product in the vessel fisheries was the red snapper, while in the shore fisheries the yield of oysters was greater in both quantity and value than that of any other species.

In the following tables the vessel and shore fisheries are shown separately, and the products are given by each form of fishing apparatus:

Table showing, by counties, apparatus, and species, the yield of the vessel fisheries of Texas in 1902.

Apparatus and species.	Aransas.		Calhoun.		Galveston.		Harris.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Seines:								
Blue-fish	400	\$16			50	\$3		
Cat-fish	100	4	8,700	\$348				
Channel bass or red-fish	9,200	368	115,200	4,608	18,900	1,134	4,000	\$240
Crevalle					80	4		
Croaker	500	10	900	33	1,900	114		
Drum	7,000	140	600	24	100	6		
Flounder	3,600	144	200	8	700	42		
Mullet	400	8						
Pike	1,200	48	1,100	44				
Pompano	600	89			120	12		
Sheepshead	2,200	88	55,700	2,228	3,600	216	2,000	80
Spanish mackerel	1,200	78	150	9	300	34		
Trout	7,400	296	80,200	3,208	22,800	1,868	6,000	\$60
Whiting	300	6			200	10		
Other fish	600	19	500	20	100	6		
Shrimp	200	8	500	20	3,600	144		
Turtle	500	20	500	18	300	18		
Terrapin	30	6	240	48	60	20		
Total	35,430	1,298	264,490	10,616	52,810	3,131	12,000	680
Lines:								
Cat-fish							2,800	140
Grouper					40,169	1,195		
Jew-fish					60,222	1,807		
Red snapper					2,067,987	103,398		
Total					2,168,378	106,400	2,800	140
Tongs, etc.:								
Oyster			448,350	17,195	212,275	10,095		
Grand total	35,430	1,298	712,840	27,811	2,483,463	119,626	14,800	820

Apparatus and species.	Matagorda.		Nueces.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Seines:						
Blue-fish			600	\$30	1,050	\$49
Cat-fish			1,800	52	10,100	404
Channel bass or red-fish			16,900	676	164,200	7,026
Crevalle					80	4
Croaker			1,600	64	4,900	221
Drum			900	36	8,600	206
Flounder			1,800	72	6,300	266
Mullet					400	8
Pike			1,900	76	4,200	168
Pompano			1,000	60	1,720	111
Sheepshead			5,800	232	69,300	2,844
Spanish mackerel			1,600	96	3,250	217
Trout			43,400	1,736	159,800	6,968
Whiting					500	16
Other fish			600	24	1,800	69
Shrimp			3,200	96	7,500	268
Turtle			2,600	104	3,900	160
Terrapin					390	74
Total			83,200	3,354	447,980	19,079
Lines:						
Cat-fish					2,800	140
Grouper					40,169	1,195
Jew-fish					60,222	1,807
Red snapper					2,067,987	103,398
Total					2,171,178	106,540
Tongs, etc.:						
Oyster	141,750	\$5,370	36,400	1,560	838,775	84,220
Grand total	141,750	5,370	119,600	4,914	8,457,883	159,839

480 REPORT OF COMMISSIONER OF FISH AND FISHERIES.

Table showing by counties, apparatus, and species the yield of the shore fisheries of Texas, 1902.

Apparatus and species.	Aransas.		Brazoria.		Calhoun.		Cameron.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Seines:								
Blue-fish	9,600	\$384	200	\$8	600	\$24	100	\$4
Buffalo-fish					2,000	80		
Cat-fish	2,000	80	2,000	80	5,700	228	300	8
Channel bass	247,000	9,880	11,000	440	64,000	2,560	54,250	674
Crevalle	2,500	60					100	3
Croaker	9,000	180	500	20	2,200	88	2,000	25
Drum	145,000	2,900					100	2
Flounder	98,000	3,920	400	16	1,000	40	2,800	84
Hog-fish	2,600	104			800	12		
Mullet	6,000	120	600	24	500	20	600	10
Pike	85,000	1,400			3,100	124	6,500	174
Pompano	19,500	1,274	250	15	300	18		
Sheepshead	43,500	1,740	6,000	240	31,200	1,248	4,200	116
Spanish mackerel	36,750	2,387	300	18	400	24	500	28
Trout	221,000	8,840	16,000	640	52,000	2,080	62,800	1,073
Whiting	6,000	120						
Other fish	11,000	240	500	20	2,300	90	200	7
Shrimp	8,000	\$20			1,000	40	19,500	280
Turtle	3,000	110			3,000	110	1,600	44
Terrapin	1,400	180			1,000	125		
Total	906,850	34,229	37,750	1,521	170,600	6,911	155,550	2,532
Turtle nets:								
Turtle	51,260	1,794					8,300	154
Cast nets:								
Croaker					1,000	40		
Mullet	1,200	36					2,000	40
Trout	2,000	80			1,500	60	800	32
Other fish	500	20						
Shrimp	1,000	40			1,200	48	6,000	120
Total	4,700	176			3,700	148	8,800	192
Lines:								
Cat-fish	3,200	128	2,800	112	3,000	120	11,000	330
Channel bass	14,000	560	800	32			1,000	35
Spanish mackerel	8,500	552						
Trout	36,000	1,440	1,000	40			600	24
Crab							2,000	50
Total	61,700	2,680	4,600	184	3,000	120	14,600	439
Spears:								
Flounders	20,000	800			2,400	96		
Tongs and rakes:								
Oyster	230,860	8,476	92,820	3,315	104,020	3,715	35,700	1,260
Grand total	1,275,370	48,155	135,170	5,020	283,720	10,990	222,950	4,577

Apparatus and species.	Chambers.		Galveston.		Harris.		Jefferson.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Seines:								
Blue-fish			3,000	\$180				
Buffalo-fish							4,000	\$240
Cat-fish					3,000	\$180	3,000	150
Channel bass	12,000	\$720	195,600	11,484	28,500	1,710	6,500	390
Crevalle			2,500	75				
Croaker	1,200	44	22,400	1,196	3,200	128	600	24
Drum			1,500	30			200	10
Flounder	400	24	7,600	456	3,850	231		
Hog-fish			400	24				
Mullet			1,200	36	1,000	30	100	4
Pike			1,000	60	700	35	300	18
Pompano			6,200	664				
Sheepshead	2,400	144	31,200	1,872	13,280	795	3,500	210
Spanish mackerel	80	8	10,300	1,128	150	15	400	62
Trout	7,000	420	241,500	13,380	34,500	2,070	4,200	254
Whiting			35,200	1,400				
Other fish	200	12	2,500	150	600	30	250	12
Shrimp	2,900	80	118,000	4,490	2,400	96		
Turtle			3,400	170				
Terrapin			2,400	800	120	25	600	60
Total	25,280	1,462	685,900	37,155	91,300	5,346	23,650	1,424

Table showing by counties, apparatus, and species the yield of the shore fisheries of Texas, 1902—Continued.

Apparatus and species.	Chambers.		Galveston.		Harris.		Jefferson.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Cast nets:								
Mullet			2,000	60				
Trout			800	48				
Other fish			200	8				
Shrimp			6,000	420				
Total			9,000	536				
Lines:								
Cat-fish			2,000	120			14,500	725
Channel bass			500	30			1,000	60
Jew-fish			5,600	330				
Trout			600	36			800	48
Total			8,600	516			16,300	833
Dip nets:								
Crab			37,000	1,850				
Spears:								
Flounders			42,500	2,934				
Tongs and rakes:								
Oyster	42,840	2,040	550,200	25,140	33,250	1,385	39,000	2,046
Grand total	68,120	3,492	1,383,200	68,131	124,550	6,781	79,010	4,303

Apparatus and species.	Matagorda.		Nueces.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Seines:						
Blue-fish			1,800	\$72	15,300	\$672
Buffalo-fish					6,000	320
Cat-fish			9,600	384	25,600	1,110
Channel bass	5,200	\$208	92,900	3,716	716,950	31,782
Crevalle			1,500	60	6,600	188
Croaker	800	32	10,250	410	52,150	2,147
Drum			2,000	40	148,800	2,982
Flounder	600	24	7,650	306	122,300	5,101
Hog-fish			1,600	64	4,900	204
Mullet			1,200	24	11,200	268
Pike			6,500	260	53,100	2,071
Pompano			2,600	156	28,850	2,127
Sheepshead	3,400	156	9,350	374	148,030	6,895
Spanish mackerel	200	12	8,000	180	62,080	3,832
Trout	6,500	260	270,550	11,820	916,000	40,237
Whiting					41,200	1,580
Other fish			1,600	64	19,150	625
Shrimp			62,800	1,254	213,700	6,562
Turtle			3,500	140	14,500	574
Terrapin					5,620	691
Total	16,700	692	488,350	19,326	2,601,930	110,588
Turtle nets:						
Turtle			18,500	670	78,060	2,618
Cast nets:						
Croaker					1,000	40
Mullet					5,200	136
Trout					6,100	220
Other fish					700	28
Shrimp					55,416	1,736
Total					69,416	2,160
Lines:						
Cat-fish					36,500	1,535
Channel bass					17,300	717
Jew-fish					5,500	330
Spanish mackerel					8,500	552
Trout					39,000	1,588
Crab			3,800	122	5,800	172
Total					112,600	4,894
Dip nets:						
Crab					37,000	1,850
Spears:						
Flounder			47,400	1,896	112,300	5,726
Tongs and rakes:						
Oyster	129,780	4,200	304,486	14,562	1,563,016	66,139
Grand total	146,480	4,892	917,951	37,684	4,586,521	193,975