

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

BY C. H. TOWNSEND, *Assistant in Charge.*

The work in which the statistical field agents of this division were employed during the past fiscal year included investigations of the fisheries of the Pacific coast, the Great Lakes, and the Mississippi River and tributaries.

The Pacific coast region was canvassed by Mr. W. A. Wilcox, with the assistance in California of Messrs. A. B. Alexander and E. A. Tulian, the latter having been transferred temporarily to duty in this division. Mr. T. M. Cogswell canvassed Lake Superior, Messrs. C. H. Stevenson and E. S. King Lake Michigan, and Mr. W. A. Roberts Lakes Huron and St. Clair and the St. Clair and Detroit rivers.

Mr. J. B. Wilson collected information on the wholesale fishery trade of Lake Erie, the statistics of the general fisheries of that lake and of Lake Ontario having been obtained before the commencement of the fiscal year by Mr. J. N. Cobb.

The inquiries respecting the Mississippi River and tributaries were conducted as follows:

Mr. Cobb canvassed the Ohio River and the Mississippi and tributaries from Alton, Ill., to New Orleans, being assisted in Arkansas and Louisiana by Mr. G. H. H. Moore.

Mr. Roberts canvassed the Mississippi above Dubuque, Iowa; Mr. Stevenson the Mississippi from Dubuque to Keokuk, Iowa, and the Missouri and its tributaries; Mr. King the Illinois River and tributaries and the Mississippi between Keokuk, Iowa, and Alton, Ill. Inquiries respecting the Tennessee River were made by Mr. Wilson.

The minor investigations during the year included canvasses of the Lake of the Woods by Mr. Cogswell, the fisheries of Nevada by Mr. Tulian, the sponge and sturgeon fisheries of Florida and portions of the interior waters of Texas by Mr. Cobb. Later Mr. Cobb was detailed to assist in an investigation of the fisheries of the Hawaiian Islands.

Mr. Stevenson was detailed for one month for field work in connection with the preparation of reports on the utilization of fishery products.

Other investigations relating to the lobster, sturgeon, menhaden, and salmon fisheries of the Atlantic coast were in progress at the close of the fiscal year, Messrs. Wilcox, Cogswell, Moore, and Wilson being in the field.

Mr. Barton A. Bean was employed for a short time in May and June in making inquiries respecting shad fisheries of the Susquehanna River in Dauphin and Lancaster counties, Pa.

During the summer, Mr. Townsend, assistant in charge, visited the Pribilof Islands for the purpose of ascertaining the condition of the fur-seal herd and the sealing industry located there.

Capt. S. J. Martin and Mr. F. F. Dimick, local statistical agents of the division stationed at Gloucester and Boston, Mass., have submitted monthly reports on the quantity and value of certain fishery products landed at those ports by American vessels.

The following single-sheet bulletins, containing advance statistics in condensed form, have been issued during the year:

No. 17. Fisheries of the Great Lakes, 1899.

No. 18. Statement of the quantity and values of certain fishery products landed at Boston and Gloucester, Mass., by American fishing vessels during the year 1899.

No. 19. Sponge fishery of Florida, 1900.

No. 20. Fisheries of the Pacific coast, 1899.

No. 107. Fisheries of the Mississippi River and tributaries, 1899.

Additional bulletins showing the quantity and values of certain fishery products landed at Boston and Gloucester by American fishing vessels have been issued monthly as usual.

The publications appearing during the year which emanated from this division were: "Statistics of the fisheries of the New England States," and "Statistics of the fisheries of the Middle Atlantic States." A paper on the sturgeon fishery of the Delaware River and Bay, and one on the lobster fishery of Maine, were prepared by John N. Cobb.

FISHERIES OF BOSTON AND GLOUCESTER.

The important fisheries of these ports are reported upon monthly by local agents of the Commission. The total quantity of products landed by American vessels was 162,218,921 pounds, worth \$4,385,102. The returns for 1900, as compared with those of the previous year, show a decrease of 14,555,380 pounds and an increase in value of \$191,450. The total number of fares was 7,513.

At Boston there has been an increase in the quantity and value of products as compared with 1899, which is shown chiefly in the supply derived from banks off the New England coast. There has been a slight increase in the quantity and value of fresh fish, while the quantity and value of salt fish has been more than doubled. The total quantity of products landed at Boston was 66,820,912 pounds, valued at \$1,598,506. The number of fares was 3,731, of which 203 were from the eastern banks and 3,528 from grounds off the New England coast. The fresh and salted fish from the eastern banks amounted to 9,786,500 pounds, valued at \$281,546, and from grounds off the New England coast, 57,034,412 pounds, valued at \$1,316,960.

There were 95,398,009 pounds of fish landed at Gloucester, valued

at \$2,786,596, a decrease from the previous year of 16,651,563 pounds, with an increase in value of \$21,290. There has been a decrease in the quantity and value of fresh fish and an increase in the quantity and value of salted fish. The fares landed at Gloucester numbered 3,782, of which 668 were from the eastern banks and 3,114 from grounds off the New England coast. The total of fish from the eastern banks was 55,596,243 pounds, valued at \$1,427,697, and from grounds off the New England coast 39,831,766 pounds, valued at \$1,358,899.

Summary, by fishing-grounds, of certain fishery products landed at Boston, Mass., in 1900 by American fishing vessels.

Fishing-grounds.	No. of trips.	Cod, fresh.		Cod, salted.		Gusk, fresh.		Haddock, fresh.	
		Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
East of 66° W. longitude:									
La Have Bank	57	885,600	\$19,987			147,500	\$2,055	959,000	\$20,129
Western Bank	50	538,300	21,416			73,500	959	855,500	9,015
Quereau Bank	12	206,000	7,218			4,000	120		
St. Peters Bank	1	60,000	1,200						
Off Newfoundland	33	2,000	60						
Cape Shore	44	591,200	13,086	61,000	\$750	73,000	1,171	477,500	14,368
Total	203	2,743,100	62,967	61,000	750	298,000	4,305	1,702,000	43,512
West of 66° W. longitude:									
Browns Bank	40	512,000	10,308			67,000	1,118	784,000	10,335
Georges Bank	440	2,472,500	60,863			39,000	1,457	8,577,700	150,852
Cashes Bank	49	270,800	8,198			142,500	1,880	227,600	7,523
Clark Bank	8	32,000	551			3,000	60	84,000	1,048
Pippenies Bank	8	33,000	1,070			6,800	96	52,500	1,715
Middle Bank	412	982,600	16,913			15,500	179	1,874,000	41,469
Jeffreys Ledge	178	847,200	10,447			53,060	633	795,500	18,202
South Channel	571	4,826,700	107,390	20,000	350	152,200	2,196	7,860,500	173,736
Nantucket Shoals	97	1,245,000	21,123					223,700	3,586
Off Highland Light	87	210,100	5,685			3,000	28	717,200	20,353
Off Chatham	83	337,800	7,556			9,000	175	1,047,300	23,148
Shore, general	1,562	4,604,850	84,384	50,000	750	77,800	935	4,197,850	86,696
Total	3,528	14,974,550	334,448	70,000	1,100	618,800	8,957	26,443,850	545,593
Grand total	3,731	17,717,650	397,415	131,000	1,850	916,800	13,262	28,235,850	589,105

Fishing-grounds.	Hake, fresh.		Pollock, fresh.		Halibut, fresh.		Halibut, salted.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
East of 66° W. longitude:								
La Have Bank	121,500	\$1,904	21,000	\$320	48,800	\$4,570		
Western Bank	123,000	1,537	6,000	110	584,800	37,835		
Quereau Bank	3,000	112			180,000	17,460		
St. Peters Bank					15,000	1,800		
Off Newfoundland			1,000	15	611,000	28,880	180,000	\$9,900
Cape Shore	92,000	1,101	20,400	278	15,900	903		
Total	339,500	4,744	48,400	723	1,404,500	91,448	180,000	9,900
West of 66° W. longitude:								
Browns Bank	29,500	450	13,500	170	10,000	1,626		
Georges Bank	303,700	5,055	32,600	202	55,350	5,421		
Cashes Bank	382,300	7,929	22,800	381	2,700	280		
Clark Bank	45,000	665	1,000	13				
Pippenies Bank	57,000	825	2,000	25				
Middle Bank	528,000	6,759	29,600	412	250	25		
Jeffreys Ledge	620,800	8,904	166,300	2,153	400	51		
South Channel	3,272,000	42,046	270,500	2,544	41,250	5,178		
Nantucket Shoals	24,000	293	69,500	903	1,000	150		
Off Highland Light	157,300	2,582	13,000	62				
Off Chatham	148,900	2,610	58,000	524	1,100	124		
Shore, general	1,011,100	15,257	446,300	5,304	5,000	485		
Total	6,577,600	93,375	1,125,100	12,573	123,650	13,340		
Grand total	6,917,100	98,119	1,173,500	13,296	1,588,150	104,788	180,000	9,900

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Fishery products landed at Boston—Continued.

Fishing-grounds.	Mackerel, fresh.		Mackerel, salted.		Other fish, fresh.		Other fish, salted.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
East of 66° W. longitude:								
La Have Bank					1,600	\$122		
Quereau Bank					600	60		
Off Newfoundland					1,410,000	40,100	1,441,800	\$22,555
Cape Shore			6,000	\$360				
Total			6,000	360	1,412,200	40,282	1,441,800	22,555
West of 66° W. longitude:								
Georges Bank	329,775	\$17,980	382,600	20,605	1,043,800	73,008		
Middle Bank	1,043,775	40,031	194,400	2,593	23,000	1,408		
Jeffreys Ledge					400	24		
South Channel	65,000	2,600	141,600	7,084	8,950	691		
Nantucket Shoals					3,000	288		
Off Highland Light					1,400	182		
Shore, general	1,980,812	88,933	679,700	38,020	586,050	7,987	16,000	160
Total	4,019,362	155,544	1,398,300	68,302	1,667,200	83,568	16,000	160
Grand total	4,019,362	155,544	1,404,300	68,662	3,079,400	123,850	1,457,800	22,715

Fishing-grounds.	Total fresh.		Total salted.		Grand total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
East of 66° W. longitude:						
La Have Bank	2,185,000	\$49,177			2,185,000	\$49,177
Western Bank	2,081,100	70,872			2,081,100	70,872
Quereau Bank	462,600	24,970			462,600	24,970
St. Peters Bank	75,000	3,000			75,000	3,000
Off Newfoundland	2,024,000	69,055	1,621,800	\$32,455	3,645,800	101,510
Cape Shore	1,270,000	30,907	67,000	1,110	1,337,000	\$2,017
Total	8,097,700	247,981	1,688,800	33,565	9,786,500	281,546
West of 66° W. longitude:						
Browns Bank	1,422,600	30,007			1,422,600	30,007
Georges Bank	12,904,425	314,868	382,600	20,605	13,287,025	335,473
Cashes Bank	1,048,700	26,191			1,048,700	26,191
Clark Bank	167,000	3,237			167,000	3,237
Fippenies Bank	151,300	3,731			151,300	3,731
Middle Bank	4,794,725	113,196	194,400	2,593	4,989,125	115,789
Jeffreys Ledge	1,983,600	40,694			1,983,600	40,694
South Channel	16,497,100	336,381	161,600	7,484	16,658,700	343,815
Nantucket Shoals	1,566,800	26,043			1,566,800	26,043
Off Highland Light	1,102,000	28,922			1,102,000	28,922
Off Chatham	1,602,100	34,137			1,602,100	34,137
Shore, general	12,309,762	289,091	745,700	38,930	13,055,462	328,021
Total	55,550,112	1,247,398	1,484,300	69,562	57,034,412	1,316,960
Grand total	63,647,812	1,495,379	3,173,100	103,127	66,820,912	1,598,506

Summary, by fishing-grounds, of certain fishery products landed at Gloucester, Mass., in 1900 by American fishing vessels.

Fishing-grounds.	No. of trips.	Cod, fresh.		Cod, salted.		Cusk, fresh.		Cusk, salted.	
		Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
East of 66° W. longitude:									
La Have Bank	142	3,446,785	\$56,607	646,869	\$21,021	369,485	\$3,041	50,000	\$708
Western Bank	170	8,409,580	142,832	5,246,570	129,024	152,000	1,816	4,000	00
Quereau Bank	5	296,380	5,392	2,078,153	55,334				
Green Bank	5			46,865	1,523				
Grand Bank	88	336,000	9,763	15,650,279	336,941				
St. Peters Bank	3	51,000	998	10,000	350	3,000	35		
Bacalieu Bank	57			12,000	330				
Off Newfoundland	85			169,305	4,910				
Cape North	1			110,000	2,550				
Cape Shore	19	95,000	1,628	38,000	850	10,000	115	2,000	45
Gulf of St. Lawrence	3			4,000	120				
Total	668	12,634,745	219,220	24,012,032	553,053	534,485	5,007	65,000	843

Fishery products landed at Gloucester—Continued.

Fishing-grounds.	No. of trips.	Cod, fresh.		Cod, salted.		Cusk, fresh.		Cusk, salted.	
		Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
West of 66° W. longitude:									
Browns Bank.....	28	341,780	\$7,210	155,300	\$3,477	55,685	\$669	.....	.....
Georges Bank.....	405	955,700	18,414	5,281,229	156,336	32,500	414	58,000	\$1,325
Cashes Bank.....	30	478,300	6,990	.....	.....	288,300	3,341	.....	.....
Middle Bank.....	56	1,436	29	.....	.....	.....	.....	.....	.....
Jeffreys Ledge.....	80	18,500	370	.....	.....	.....	.....	.....	.....
Ipswich Bay.....	19	179,000	2,375	.....	.....	.....	.....	.....	.....
South Channel.....	12	119,060	3,292	.....	.....	22,820	307	.....	.....
Nantucket Shoals.....	2	.....	.....	67,120	1,576	.....	.....	.....	.....
Bay of Fundy.....	54	196,625	2,845	8,000	220	135,640	1,561	8,000	180
Shore, general.....	2,428	1,408,596	82,404	314,140	7,704	31,670	335	.....	.....
Total.....	3,114	3,698,997	74,028	5,925,789	169,313	566,615	6,627	66,000	1,505
Grand total.....	3,782	16,333,742	293,248	29,837,821	722,366	1,101,100	12,534	131,000	2,348

Fishing-grounds.	Haddock, fresh.		Haddock, salted.		Hake, fresh.		Hake, salted.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
East of 66° W. longitude:								
La Have Bank.....	1,241,330	\$19,724	.....	.....	1,606,401	\$14,499	.....	.....
Western Bank.....	168,630	2,543	6,000	\$75	434,000	3,860	6,000	\$75
Cape Shore.....	75,000	1,050	.....	.....	15,000	120	14,000	210
Total.....	1,484,960	23,317	6,000	75	2,055,401	18,479	20,000	285
West of 66° W. longitude:								
Browns Bank.....	396,065	6,460	.....	.....	35,045	488	.....	.....
Georges Bank.....	2,410,500	31,016	.....	.....	48,500	553	.....	.....
Cashes Bank.....	48,340	845	.....	.....	783,870	6,068	.....	.....
Jeffreys Ledge.....	.....	.....	.....	.....	55,000	550	.....	.....
Ipswich Bay.....	7,135	43	.....	.....	.....	.....	.....	.....
South Channel.....	84,620	2,618	.....	.....	65,720	890	.....	.....
Bay of Fundy.....	4,000	24	.....	.....	953,000	8,067	58,000	783
Shore, general.....	371,032	7,120	.....	.....	531,020	6,135	.....	.....
Total.....	3,321,692	48,135	.....	.....	2,478,055	23,351	58,000	783
Grand total.....	4,806,652	71,452	6,000	75	4,533,456	41,830	78,000	1,068

Fishing-grounds.	Pollock, fresh.		Pollock, salted.		Halibut, fresh.		Halibut, salted.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
East of 66° W. longitude:								
La Have Bank.....	15,120	\$96	.....	.....	37,914	\$3,024	.....	.....
Western Bank.....	10,900	64	5,000	\$63	98,653	6,470	.....	.....
Queereau Bank.....	.....	.....	24,180	\$302	1,386,581	120,246	.....	.....
Green Bank.....	.....	.....	.....	.....	151,175	14,087	.....	.....
Grand Bank.....	.....	.....	.....	.....	632,910	47,170	18,915	\$1,016
St. Peters Bank.....	.....	.....	.....	.....	25,004	2,034	.....	.....
Bacalieu Bank.....	.....	.....	.....	.....	1,883,972	100,109	1,361,220	77,123
Off Newfoundland.....	.....	.....	.....	.....	1,138,204	50,244	3,200	100
Cape Shore.....	.....	.....	.....	.....	2,000	160	.....	.....
Gulf of St. Lawrence.....	.....	.....	.....	.....	3,000	240	6,000	300
Total.....	25,720	160	20,180	365	5,350,473	343,874	1,380,335	78,599
West of 66° W. longitude:								
Browns Bank.....	2,000	12	11,890	140	323,807	27,482	.....	.....
Georges Bank.....	.....	.....	.....	.....	1,000	60	.....	.....
Cashes Bank.....	.....	.....	.....	.....	.....	.....	.....	.....
Middle Bank.....	1,604	10	.....	.....	.....	.....	.....	.....
Jeffreys Ledge.....	927,160	5,733	.....	.....	.....	.....	.....	.....
Bay of Fundy.....	8,000	52	.....	.....	2,225	200	.....	.....
Shore, general.....	3,139,250	22,987	.....	.....	.....	.....	.....	.....
Total.....	4,078,604	28,797	11,890	140	327,032	27,742	.....	.....
Grand total.....	4,104,324	28,957	41,070	514	5,686,505	371,616	1,380,335	78,599

Fishery products landed at Gloucester—Continued.

Fishing-grounds.	Mackerel, fresh.		Mackerel, salted.		Other fish, fresh.		Other fish, salted.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
East of 66° W. longitude:								
Western Bank					732	\$37		
Quereau Bank					1,640	177		
Off Newfoundland					1,810,309	61,246	5,559,200	\$89,167
Cape Shore	1,440	\$50	468,200	\$30,243				
Gulf of St. Lawrence			9,400	494			120,000	2,100
Total	1,440	56	477,600	30,737	1,821,672	61,460	5,679,200	91,267
West of 66° W. longitude:								
Georges Bank	132,480	5,231	5,422,600	276,251	160	8		
Middle Bank	122,400	6,606	115,400	4,938				
Ipswich Bay	1,800	90	19,600	1,078			40,000	400
Bay of Fundy			1,806,400	84,859	80,000	2,400		
Shore, general	4,611,812	222,425	6,719,600	371,218	203,040	1,577	98,800	1,388
Total	4,868,492	234,352	14,083,600	738,314	283,200	3,985	138,800	1,788
Grand total	4,869,932	234,408	14,561,200	769,081	2,104,872	65,445	5,818,000	93,055

Fishing-grounds.	Total fresh.		Total salted.		Grand total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
East of 66° W. longitude:						
La Have Bank	6,717,035	\$90,891	706,869	\$21,729	7,423,904	\$121,620
Western Bank	9,274,195	157,622	5,287,570	129,327	14,561,765	286,949
Quereau Bank	1,684,601	125,815	2,102,383	55,936	3,786,984	181,451
Green Bank	151,175	14,087	40,895	1,523	198,040	15,610
Grand Bank	968,910	56,933	15,609,185	337,957	16,638,065	394,890
St. Peters Bank	79,004	3,067	10,000	350	89,004	3,417
Bacalleu Bank	1,883,972	100,199	1,373,220	77,453	3,257,192	177,652
Off Newfoundland	2,957,564	111,490	5,791,705	94,237	8,689,269	205,727
Cape North			110,000	2,550	110,000	2,550
Cape Shore	198,440	3,129	522,200	31,448	720,640	34,577
Gulf of St. Lawrence	3,000	240	139,400	3,014	142,400	3,254
Total	23,917,896	672,473	31,678,347	755,224	55,596,243	1,427,697
West of 66° W. longitude:						
Browns Bank	831,475	14,848	155,300	3,477	986,775	18,325
Georges Bank	3,903,647	63,118	10,773,719	434,061	14,677,366	517,179
Cashes Bank	1,599,810	17,004			1,599,810	17,004
Middle Bank	125,440	6,645	115,400	4,938	240,840	11,583
Jeffreys Lodge	1,000,050	6,656			1,000,050	6,656
Ipswich Bay	187,935	2,508	59,600	1,478	247,535	3,986
South Channel	292,220	7,107			292,220	7,107
Nantucket Shoals			67,120	1,576	67,120	1,576
Bay of Fundy	13,380,060	15,149	1,880,400	86,042	15,260,460	101,191
Shore, general	10,296,420	293,082	7,132,540	380,310	17,428,960	673,392
Total	19,617,687	447,017	20,184,079	911,882	39,801,766	1,358,809
Grand total	43,535,583	1,119,490	51,862,426	1,667,106	95,398,009	2,786,506

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Statement, by months, of quantities and values of certain fishery products landed at Boston and Gloucester by American fishing vessels during the year 1900.

Months.	No. of trips.	Cod, fresh.		Cod, salted.		Cusk, fresh.		Cusk, salted.	
		Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
January	242	865,900	\$25,256			71,000	\$1,167		
February	276	635,600	25,431			62,000	1,658		
March	423	2,026,600	45,072			43,000	871		
April	423	1,983,100	28,904			84,000	956		
May	300	1,736,400	25,035	61,000	\$750	110,000	1,031		
June	241	1,467,000	25,818	50,000	750	71,600	830		
July	327	1,913,800	31,696	20,000	350	5,200	77		
August	331	1,697,500	35,839			24,000	315		
September	270	1,591,100	39,953			39,600	649		
October	325	1,435,000	49,737			111,000	1,428		
November	297	781,000	25,462			114,500	1,790		
December	276	1,583,450	39,124			181,000	2,492		
Total at Boston	3,731	17,717,650	397,415	131,000	1,850	916,800	13,262		
January	159	520,780	13,394	113,000	3,579	66,500	864		
February	255	324,627	12,368	76,300	2,576	14,000	177		
March	270	1,274,599	23,090	323,745	10,780	21,000	204		
April	310	1,968,057	22,949	916,520	20,524	73,020	850		
May	303	1,607,452	23,147	2,109,940	57,150	254,120	2,923	4,000	\$90
June	377	1,184,004	16,210	4,114,285	94,807	380,045	4,008		
July	340	1,068,702	17,033	7,510,122	144,431	122,500	1,408	87,000	1,358
August	354	1,531,290	24,829	2,894,183	69,369	62,000	778	40,000	900
September	321	1,539,186	26,066	2,605,215	68,341	24,000	301		
October	474	1,362,600	27,153	3,040,139	86,606	12,500	154		
November	300	2,728,101	62,965	5,225,205	138,539	10,000	132		
December	244	1,113,500	24,074	847,051	28,584	58,915	615		
Total at Gloucester	3,782	16,333,742	293,248	20,837,821	722,366	1,101,100	12,534	131,000	2,348
Grand total	7,513	34,051,392	690,663	20,968,821	724,216	2,017,900	25,796	131,000	2,348
Landed at Boston in 1899	3,806	10,684,550	437,756	50,000	1,250	1,162,800	13,353		
Landed at Gloucester in 1899	3,954	28,606,038	506,574	36,855,040	1,022,516	2,308,740	30,285	227,987	5,185

Months.	Haddock, fresh.		Haddock, salted.		Hake, fresh.		Hake, salted.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
January	2,052,400	\$48,660			318,500	\$7,289		
February	3,252,500	84,751			227,600	7,275		
March	6,483,000	92,180			127,600	3,916		
April	2,991,700	40,136			182,800	1,586		
May	1,799,900	33,437			310,800	2,934		
June	1,581,900	33,552			361,300	3,901		
July	2,211,400	25,066			368,000	3,553		
August	1,738,700	37,892			424,500	5,095		
September	1,847,800	44,492			830,800	8,223		
October	1,533,600	52,571			1,445,800	18,538		
November	1,047,300	42,023			1,304,700	19,057		
December	1,695,650	53,445			1,032,700	10,152		
Total at Boston	28,225,850	589,105			6,917,100	98,119		
January	721,466	15,107			113,325	1,057		
February	680,117	11,872			12,465	180		
March	1,914,021	23,100			5,270	95		
April	622,362	4,339			68,060	544		
May	127,548	845	4,000	\$50	435,921	3,491	2,000	\$25
June	49,373	1,188			1,028,728	8,548		
July	28,000	168			1,309,685	11,798	72,000	993
August	40,400	305	2,000	25	306,050	2,790	4,000	50
September	24,000	144			600,715	5,238		
October	32,500	405			353,180	3,300		
November	138,435	3,439			103,281	1,806		
December	433,430	10,480			193,876	2,325		
Total at Gloucester	4,806,052	71,452	6,000	75	4,528,456	41,830	78,000	1,068
Grand total	33,042,502	660,557	6,000	75	11,445,556	139,949	78,000	1,068
Landed at Boston in 1899	25,145,160	554,198			8,489,800	99,708		
Landed at Gloucester in 1899	8,146,208	119,003	15,270	187	8,166,804	78,608	53,500	807

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Statement of quantities and values of certain fishery products, etc.—Continued.

Months.	Pollock, fresh.		Pollock, salted.		Halibut, fresh.		Halibut, salted.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
January	14,000	\$200			71,350	\$5,532		
February	14,100	412			69,050	5,986		
March	30,570	770			103,200	9,560		
April	19,900	224			117,000	6,321		
May	48,500	350			332,400	14,030		
June	38,900	412			167,800	11,490		
July	231,100	1,475			250,550	13,780		
August	112,400	883			118,200	6,251		
September	111,000	1,025			145,850	10,887	180,000	\$9,000
October	258,200	3,171			91,300	9,162		
November	210,500	2,580			97,300	8,550		
December	84,400	1,179			24,150	2,010		
Total at Boston	1,173,500	13,298			1,588,150	104,788	180,000	9,000
January	3,718	85			402,687	33,695		
February	1,188	11			241,554	17,192		
March	4,388	26			353,038	30,517		
April	1,600	10			409,137	27,001		
May	4,160	25			1,075,541	48,455	2,000	100
June	8,901	54			673,582	38,491		
July	9,728	60	11,890	\$149	653,831	35,043	52,035	2,602
August	13,870	80			634,340	31,279	340,500	18,550
September	100,810	695	5,000	63	380,879	28,872	881,600	50,417
October	2,141,748	13,647			398,898	37,588	113,200	6,980
November	1,448,507	11,140	24,180	302	300,607	26,029		
December	356,092	3,147			173,814	17,964		
Total at Gloucester	4,104,324	28,957	41,070	514	5,696,505	371,616	1,389,335	78,569
Grand total	5,277,824	42,253	41,070	514	7,274,655	476,404	1,669,335	88,409
Landed at Boston in 1899	1,286,850	12,883			1,606,585	112,462		
Landed at Gloucester in 1899	6,056,252	41,117	144,000	1,790	6,629,807	428,329	788,700	59,218

Months.	Mackerel, fresh.		Mackerel, salted.		Other fish, fresh.		Other fish, salted.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
January					290,000	\$8,700		
February					510,000	14,600	186,000	\$3,510
March					400,000	13,800	83,800	1,905
April					150,000	3,000		
May	8,340	\$276						
June	447,522	14,800	227,400	\$11,425				
July	725,275	41,959	389,600	20,207	565,450	35,450		
August	2,106,525	58,274	631,000	24,913	450,100	33,395		
September	510,775	27,818	112,800	6,924	148,950	8,170		
October	220,925	12,417	63,500	5,103	237,150	3,022		
November					215,050	3,400	548,000	7,960
December					22,700	304	640,000	9,350
Total at Boston	4,019,362	155,544	1,404,300	68,662	3,079,400	123,850	1,457,800	22,715
January					498,000	16,183	49,000	771
February					860,000	30,100	535,800	9,577
March					280,000	7,650	30,000	525
April					170,000	4,250	14,000	245
May			18,200	1,092				
June	3,632,840	180,842	2,485,400	116,053			120,000	2,100
July	153,792	8,921	4,060,400	214,065				
August	701,250	19,857	4,664,600	233,191	692	45		
September	187,200	6,443	2,519,400	130,052			13,000	228
October	194,580	9,320	707,800	56,289	204,680	1,754	85,800	1,160
November	270	25	105,400	7,539			3,735,000	58,125
December					141,300	5,453	1,235,400	20,324
Total at Gloucester	4,869,932	234,408	14,561,200	760,081	2,104,872	65,445	5,818,000	93,055
Grand total	8,889,294	389,952	15,965,500	837,743	5,184,272	189,295	7,275,800	115,770
Landed at Boston in 1899	798,752	43,905	196,400	14,895	5,335,832	123,866	1,028,000	14,270
Landed at Gloucester in 1899	430,788	27,373	3,665,800	275,570	3,475,921	75,609	6,475,000	93,096

¹ Includes herring from Newfoundland, 3,220,000 pounds frozen, \$101,346; and 7,001,000 pounds salted, \$111,722.

Statement of quantities and values of certain fishery products, etc.—Continued.

Months.	Total fresh.		Total salted.		Grand total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
January	3,683,150	\$90,833			3,683,150	\$90,833
February	4,770,850	140,113	186,000	\$3,500	4,956,850	143,614
March	9,273,900	166,160	83,800	1,905	9,357,700	168,074
April	5,478,500	81,217			5,478,500	81,217
May	4,352,340	77,690	61,000	750	4,413,340	78,449
June	4,156,022	90,810	277,400	12,175	4,434,022	102,985
July	6,270,775	153,056	389,600	20,647	6,660,375	174,003
August	6,671,925	177,944	631,000	24,913	7,302,925	202,857
September	5,231,775	141,817	292,800	16,824	5,524,575	158,641
October	5,332,975	150,044	63,500	5,103	5,396,475	155,147
November	3,800,950	103,471	548,000	7,900	4,348,950	111,431
December	4,624,050	115,306	640,000	9,350	5,264,050	124,656
Total at Boston	63,647,812	1,495,379	3,173,100	103,127	66,820,912	1,598,500
January	2,326,476	80,035	162,000	4,350	2,488,476	85,285
February	2,183,949	71,000	612,160	12,153	2,746,109	84,053
March	3,802,926	84,742	353,745	11,305	4,156,671	96,047
April	3,313,156	59,943	630,529	20,769	4,243,885	80,712
May	3,594,778	70,880	2,230,140	58,507	5,824,918	135,393
June	6,962,653	258,341	6,719,885	213,590	13,682,538	471,901
July	3,346,138	75,400	11,793,447	304,198	15,139,585	439,598
August	3,290,041	79,639	7,917,233	319,105	11,207,274	399,044
September	2,874,782	67,790	6,024,215	258,701	8,899,007	326,491
October	4,690,880	93,471	3,946,989	151,046	8,637,869	244,516
November	4,733,201	106,085	9,089,785	234,545	13,822,986	310,590
December	2,466,593	64,058	2,082,451	48,908	4,549,044	112,966
Total at Gloucester	43,535,583	1,119,490	51,862,426	1,667,100	95,398,009	2,786,596
Grand total	107,183,395	2,614,869	55,035,526	1,770,233	162,218,921	4,385,102
Landed at Boston in 1899	63,450,329	1,398,181	1,274,400	30,215	64,724,729	1,428,346
Landed at Gloucester in 1899	63,823,567	1,306,928	48,236,005	1,458,378	112,049,572	2,765,803

THE MACKEREL FISHERY.

The mackerel fishery has been of unusual interest during the seasons of 1900 and 1901 on account of its improved condition as compared with other recent years. The present period of scarcity began with the year 1886, when the catch of salted mackerel landed from the vessels fell from 329,943 barrels in 1885 to 79,998 barrels in 1886, and has never since risen to 100,000 barrels annually. According to information received from Mr. F. F. Dimick, the local agent of the Commission at Boston, the New England catch of salted mackerel in 1900 was 87,967 barrels. This, with the exception of 1888, when it was 88,382 barrels, was larger than at any time since 1885, and gave rise to the hope on the part of the fishermen and dealers that the fishery might in the near future regain its former importance. The present season, 1901, has so far been less encouraging. The quantity of salted mackerel landed by the New England fleet to the 1st of September was 57,072 barrels, valued at \$627,792, and for the same period in 1900 it was 67,533 barrels, valued at \$742,863. The contrast between present and former conditions will be better appreciated when it is stated that in 1884, which was one of the most prosperous years in the history of the fishery, 214,189 barrels of salted mackerel were landed by the 1st of September, and the total catch for the season was 478,076 barrels.

The greater part of the fresh mackerel caught along the coast is shipped to Boston, and it is usually estimated that the receipts at that port cover about 90 per cent of the whole New England catch. The receipts of domestic fresh mackerel to the 1st of September, 1901, are reported to be 44,196 barrels, valued at \$265,176, while for the same period in 1900 the quantity landed was only 40,553 barrels, but the value was \$273,732. There has therefore been an increase in the quantity so far during the season and a decrease in the value. It is generally believed that the total catch of fresh and salted mackerel will not be equal to that of last year, and some of the fishermen have discontinued mackerel fishing to engage in other branches of fishery which seem to be more promising. However, some good catches are being reported, and it is not impossible that conditions may improve. The southern mackerel catch for this season, 1901, amounted to 16,419 barrels, valued at \$180,609, which is more than 5,000 barrels larger than it was in either of the five preceding years.

SHAD IN PENNSYLVANIA.

An inquiry in Dauphin and Lancaster counties, Pennsylvania, shows that since the destruction of the dam at Columbia some years ago there has been considerable improvement in the shad fisheries of the Susquehanna River above that point. The catch at four different localities in the above-named counties in 1900 aggregated 16,840 shad, or about 67,360 pounds, having a value of \$3,990.

GERMAN CARP IN LAKE ERIE.

An interesting fact in connection with the fishing industry of this lake is the increased utilization of the German carp. This fish, now abundant in nearly all waters where it has been introduced, has become commercially important in a number of regions. For several years it has constituted more than half of the total yield of the fisheries of the Illinois River. An investigation of the fisheries of the Mississippi River and tributaries for 1899 shows the catch of German carp to have been 11,869,840 pounds, valued at \$289,258. While taken in our interior waters in abundance by anglers and used locally, the growth of the carp fishery as an industry has been slow. In a former report of this division attention was called to the importance of this fishery in the Illinois River, and the development of a good market for the catch in certain eastern cities, where the proportion of foreigners in the population is large.

In Lake Erie German carp are very abundant, and in the effort to utilize them new markets are being found in the Mississippi Valley, an important part of the catch being sent to St. Louis, Louisville, Cincinnati, and other cities. When taken in larger quantities than required, they can be easily retained in ponds until wanted. The writer recently visited a pond near Port Clinton, Ohio, where about 50 tons of German carp were held. Fishermen in this region usually receive 1½ cents a pound, sometimes 2 cents. When extra large quan-

tities are taken the surplus is frequently sold for the manufacture of fish fertilizer. German carp sent to New York and other eastern cities are shipped round, but if destined for other markets they are generally dressed. Most of the catch is made with seines.

Recent inquiries respecting commercial fishing carried on in Utah show that the catch of German carp in Utah Lake and tributaries in 1900 amounted to 344,685 pounds, or about three times the quantity taken from the same waters in 1895. More than half of the catch in this lake was made with spears.

FISHERIES OF LAKE OF THE WOODS.

A canvass of the fisheries of Lake of the Woods, made for 1899, shows a continued decrease of the fisheries in nearly all respects. The number of persons engaged was 126, and the amount of capital employed was \$58,830, a decrease of 47 persons and \$49,272 since 1894. The total yield of the fisheries was 626,225 pounds, valued at \$32,815, while in 1894 it was 2,198,984 pounds, valued at \$56,747. The fisheries of this lake are prosecuted chiefly for the sturgeon. Since 1894 the catch of this species has decreased from 1,059,267 pounds, worth \$31,778, to 197,033 pounds, having a value of \$16,623.

The number of pound nets, the principal form of apparatus of capture, has decreased from 148 in 1894 to 58 in 1899.

Other products of these fisheries have decreased in similar proportions. The shrinkage in value has not been so great as in quantity for the reason that as the supply has diminished prices have advanced. The three following tables show the extent of the fisheries of this lake for the year 1899, a fourth table presenting a comparison of the yield of the various species taken in pound nets for a term of years:

Table showing the number of persons employed in the fisheries of Lake of the Woods for the year 1899.

How employed.	No.
On vessels transporting.....	12
In shore fisheries.....	109
On shore, in fish-houses, etc.....	14
Total	126

Table showing the apparatus and capital employed in the fisheries of Lake of the Woods for the year 1899.

Items.	No.	Value.
Vessels transporting.....	4	\$18,000
Tonnage.....	113	
Outfit.....		2,225
Boats.....	35	1,480
Pile-drivers.....	12	1,450
Barges.....	4	2,500
Apparatus of capture:		
Pound nets.....	58	15,425
Fyke nets.....	25	250
Shore property.....		17,500
Total		58,830

Table showing, by apparatus and species, the yield of the fisheries of Lake of the Woods for the year 1899.

Apparatus and species.	Lbs.	Value.
Pound nets:		
Buffalo.....	6,013	\$113
Pike.....	30,903	1,200
Pike perch (wall eyed).....	124,722	6,236
Sturgeon*.....	107,033	16,623
Trout.....	423	17
White-fish.....	170,242	6,722
Total.....	547,336	30,911
Fyke nets:		
Bullheads.....	73,889	1,904
Grand total.....	621,225	32,815

*Included with sturgeon are 18,941 pounds of caviar, valued at \$11,385, and 391 pounds of sturgeon sounds, valued at \$32.

Table showing the pound-net catch in the American waters of Lake of the Woods in certain years.

Species.	1894.	1897.	1898.	1899.
	<i>Lbs.</i>	<i>Lbs.</i>	<i>Lbs.</i>	<i>Lbs.</i>
Buffalo.....	80,020	16,965	28,130	6,013
Pike.....	231,474	48,275	50,676	39,903
Pike perch (wall-eyed).....	405,104	137,401	92,181	124,722
Sturgeon.....	1,059,267	511,159	330,601	197,033
Trout.....	11,501	650	440	423
White-fish.....	411,018	71,907	112,624	179,242
Total.....	2,198,084	780,417	620,652	547,336

FISHERIES OF THE GREAT LAKES.

A statistical canvass of the fisheries of the Great Lakes for 1899—the results of which have already been published in condensed form as statistical bulletin No. 17—shows the total yield and value of fishery products to be nearly equal to that of 1890, the largest on record. In 1899 the fisheries of the Great Lakes yielded 113,728,040 pounds, valued at \$2,611,482.

The total number of persons engaged in the fisheries was 9,670, and the capital invested amounted to \$6,617,716. The vessels employed numbered 208, having a value, with their outfits, of \$802,621. The number of boats employed was 3,281, worth \$277,766. The apparatus of capture which represented the greatest value was gill nets, valued at \$690,518. Pound nets and trap nets were valued at \$660,408. The number of gill nets in use was 105,687, and of pound and trap nets 3,837.

The most important species among the products of the fisheries with respect to value was herring, worth \$941,067. The catch of trout was valued at \$431,276, and of white-fish at \$297,023. The yield of pike and pike perch was valued at \$325,941.

The various lakes as compared with each other differ considerably in the value of their fisheries. Lake Erie, the fisheries of which are

much more extensive than those of any of the other lakes, yielded products valued at \$1,150,895; Lake Michigan, \$876,743; Lake Huron, \$308,078; Lake Superior, \$150,862; Lake Ontario, \$101,040; Lake St. Clair, St. Clair and Detroit rivers, \$23,864.

The following tables show the persons, apparatus, and capital employed in the fisheries of the Great Lakes in 1899, and the quantity and value of the fishery products:

Fisheries of the Great Lakes, 1899.

Items.	Lake Superior.		Lake Michigan.		Lake Huron.		Lake St. Clair, St. Clair and Detroit rivers.	
	No.	Value.	No.	Value.	No.	Value.	No.	Value.
Persons employed	613		3,255		1,241		442	
Vessels and outfits	10	\$51,004	80	\$254,005	12	\$55,045		
Tonnage	277		1,321		250			
Boats ¹	305	27,245	1,098	07,908	527	40,835	198	\$3,770
Safoes		50	1	510	0	373	13	1,255
Gill nets	7,229	90,283	49,857	288,305	5,876	54,384	60	600
Pound nets and trap nets.	102	25,820	905	180,749	1,006	11,830	5	1,050
Fyke nets	15	150	1,477	23,027	398	7,632		644
Lines		588		3,158		346		271
Other apparatus		320		2,500		210		271
Shore and accessory prop- erty		111,023		800,629		148,489		20,945
Cash capital		50,000		1,218,200		55,500		20,000
Total investment		372,083		2,015,241		474,953		54,535
PRODUCTS.								
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Black bass			8,565	\$944	5,659	\$396	200	\$14
Bluefish	435,000	\$11,317	498,318	12,794				
Bullheads	7,000	304	53,452	1,067	141,429	4,255	1,200	18
Carp, German			25,280	402	0,369	143	8,000	221
Cat-fish			8,710	315	432,977	12,372	16,305	611
Eels			484	40	861	49		
Herring, fresh ²	880,018	0,954	10,225,653	211,784	1,073,957	10,090		
Herring, salted ³	239,400	4,810	11,348,063	212,245	2,625,850	49,722		
Ling or lawyers			122,339	880	20,890	107		
Menominee, fresh			375,653	0,747	112,417	2,007		
Menominee, salted			144,030	4,500	24,000	810		
Perch	3,879	30	3,077,741	57,072	2,740,000	32,690	40,000	1,202
Pike	15,002	316	87,316	4,490	191,751	0,995	42,305	1,795
Pike perch (wall-eyed pike) ⁴								
Rock bass	13,679	405	173,733	7,555	1,110,510	49,294	208,350	11,877
Sheepshead	934	28	4,161	43	83,344	1,612	3,700	217
Sturgeon ⁵			55,372	722	160,046	1,000	17,050	131
Suckers, fresh	4,415	170	108,279	7,187	30,497	1,298	7,000	1,352
Suckers, salted	5,447	57	934,042	10,143	980,005	18,502	33,000	325
Sun-fish	6,200	114	109,136	1,931	129,795	1,818		
Trout, fresh					01,002	730	250	4
Trout, salted	2,064,836	85,572	5,407,110	241,015	1,879,411	80,077	09,915	2,884
White bass	453,331	15,127	81,837	3,046	7,000	846		
White-fish, fresh			4,380	146				
White-fish, salted	647,670	23,710	1,407,142	08,025	584,108	31,525	60,002	3,087
Other fish	45,521	1,837	103,222	5,407	8,140	385		
Crawfish			117	9	484	21	630	126
Frogs			135,861	3,408				
Total	5,429,654	150,802	34,499,906	876,743	12,418,327	308,078	579,007	23,864

¹ Includes steam tugs and gasoline launches under 5 tons.

² Includes "long-jaws" and "chubs."

³ Sturgeon includes 47,470 pounds of caviar, valued at \$30,510, apportioned as follows: Michigan, 5,044 pounds, \$2,204; Huron, 300 pounds, \$195; Lake St. Clair, St. Clair and Detroit rivers, 900 pounds, \$708; Erie, 32,905 pounds, \$21,122; Ontario, 8,801 pounds, \$6,161.

⁴ Pike perch (*Stizostedion vitreum*) is also called blue pike and wall-eyed pike.

Fisheries of the Great Lakes, 1899—Continued.

Items.	Lake Erie.		Lake Ontario.		Total for Great Lakes.	
	No.	Value.	No.	Value.	No.	Value.
Persons employed	3,723		391		9,870	
Vessels and outfits	104	\$439,977	2	\$1,000	208	\$802,621
Tonnage	1,665		22		3,541	
Boats	870	79,466	287	8,482	3,281	227,766
Seine	104	8,390	24	420	162	11,298
Gill nets	41,678	229,182	1,187	18,074	106,687	690,518
Pound nets and trap nets	1,724	329,500	145	5,850	3,837	690,408
Fyke nets	617	15,750	451	5,412	2,958	52,571
Lines		3,470		1,355		9,651
Other apparatus		142		427		3,870
Shore and accessory property		1,050,977		18,440		2,225,503
Cash capital		563,700		20,200		1,933,000
Total investment		2,720,554		80,350		6,617,716
PRODUCTS.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Black bass	133,746	\$9,806	48,046	\$3,133	196,216	\$14,663
Bluefins					933,378	24,111
Bullheads			511,042	18,600	714,723	24,544
Carp, German	3,633,697	51,466	1,000	50	3,674,346	52,362
Cat-fish	1,002,704	30,451	7,381	234	1,468,077	43,983
Crappie	60,000	1,800			60,000	1,800
Eels	849	61	123,840	6,163	126,634	6,313
Herring, fresh	33,427,797	431,037	61,178	2,789	45,074,603	673,260
Herring, salted			25,600	1,024	14,238,973	267,807
Ling or lawyers					143,219	1,053
Menominee, fresh					487,470	12,414
Menominee, salted					168,090	5,370
Mooneye	43,836	867			43,836	867
Perch	3,315,490	52,625	407,017	11,822	9,584,802	150,350
Pike	19,025	1,241	100,366	5,861	457,024	20,698
Pike perch (blue pike)	4,544,780	139,301	186,996	9,430	4,731,782	148,740
Pike perch (wall-eyed pike)	1,735,174	86,455	10,440	827	3,311,892	166,503
Rock bass	5,296	91	102,968	2,323	200,403	4,314
Saugers	3,026,565	75,313			3,026,565	75,313
Sheepshead	1,147,122	7,651			1,380,190	9,513
Sturgeon	789,402	53,392	189,955	17,753	1,130,148	81,128
Suckers, fresh	1,598,734	18,077	278,738	5,101	3,801,856	52,205
Suckers, salted					242,131	3,803
Sun-fish	175,440	4,362	148,440	2,669	385,201	7,204
Trout, fresh	32,024	1,736	15,432	853	10,098,730	412,137
Trout, salted					542,858	19,139
White bass	1,596,524	30,663	2,300	92	1,663,204	50,841
White-fish, fresh	2,066,314	152,009	101,935	10,978	4,937,131	289,334
White-fish, salted					150,893	7,689
Other fish	540	5	22,700	1,593	24,471	1,754
Crawfish					135,861	3,498
Frogs	982	172	1,750	300	10,732	698
Turtles	67,211	2,324			67,211	2,324
Total	58,393,864	1,150,895	2,407,132	101,040	113,728,040	2,611,482

The following shows the quantity and value by lakes for the years 1885, 1890, 1893, and 1899:

Yield of the fisheries of the Great Lakes in 1885, 1890, 1893, and 1899.

Lakes.	1885.		1890.		1893.		1899.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Lake Superior	8,825,980	\$291,523	6,115,992	\$220,968	8,096,927	\$252,107	5,429,054	\$150,862
Lake Michigan	23,518,148	878,788	26,434,266	830,465	30,747,755	828,611	34,409,996	876,743
Lake Huron	11,457,170	276,397	10,056,381	221,037	12,064,338	306,381	12,418,327	308,078
Lake St. Clair and Detroit rivers	2,185,795	40,193	2,094,571	73,577	1,814,311	46,030	579,067	23,864
Lake Erie	51,450,517	1,109,986	64,850,873	1,000,905	42,968,325	865,979	58,393,864	1,150,895
Lake Ontario	2,398,406	95,869	3,446,448	124,786	928,015	31,510	2,407,132	101,040
Total	99,842,076	2,691,866	113,898,531	2,471,768	96,619,671	2,270,618	113,728,040	2,611,482

STURGEON FISHERY OF FLORIDA.

The sturgeon fishery of Florida has never been of great importance, from the fact that while sturgeon are quite numerous in the bays and rivers of both the eastern and western parts of the State the supply has generally become exhausted after a few seasons in all localities where, in former years, the fishery has been prosecuted.

In eastern Florida the catch of sturgeon in 1889 was 40,620 pounds, and in 1890 it was 28,055 pounds, but since that time none have been taken. The catch in Tampa Bay, on the western side of the State, during the winter of 1886 and 1887 was about 1,500 sturgeon, which yielded 5,000 pounds of caviar. The following season over 2,000 fish were secured and nearly 6,300 pounds of caviar prepared. The next season only 7 fish were taken and the fishery was then abandoned. Since 1895 there has been more or less sturgeon fishing in the Suwanee River, but it is reported that the fish are now becoming scarce. The season during which sturgeon are taken in the Suwanee extends from February 1 to May 1, and the fishing is done with gill nets. In the Ocklockonee River sturgeon fishing was prosecuted successfully in 1898 and 1899, but very few sturgeon have since been caught there. In the Apalachicola River sturgeon fishing began in 1899 and is still being carried on successfully, but whether the supply will become exhausted in three or four seasons, as has been the case with some of the other rivers of this section, is a matter yet to be determined.

Mr. J. N. Cobb has recently, in connection with other fishery investigations, collected statistics respecting the sturgeon fishery in western Florida in 1900. There were 84 persons engaged in the industry, and the investment amounted to \$8,157. The yield of sturgeon, at round weight, for the Suwanee River was 44,400 pounds; for the Ocklockonee River, 37,100 pounds, and for the Apalachicola River, 84,000 pounds. These rivers are the only ones where sturgeon are now taken. The total value of sturgeon products for western Florida was \$12,901.

In the following table, showing the extent of the sturgeon fishery of Florida in 1900, the round and dressed weights of the catch are given:

Table showing by waters the number of persons and the amount of capital employed and the yield of the sturgeon fishery of Florida in 1900.

Items.	Suwanee River.		Ocklockonee River.		Apalachicola River.		Total.	
	No.	Value.	No.	Value.	No.	Value.	No.	Value.
Persons employed	18		10		47		84	
Boats, apparatus, etc.:								
Steamboats		1	\$2,000		1	\$2,500	2	\$4,500
Rowboats, etc.	8	\$1,290	10	290	20	400	38	1,980
Gill nets	9	102	22	220	20	600	*51	982
Shore property		95		400		200		695
Total		1,547		2,910		3,700		8,157
PRODUCTS.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Sturgeon (round weight)	44,400		37,100		84,000		165,500	
Sturgeon (dressed weight)	22,200	\$2,664	19,350	\$2,322	40,000	\$4,800	81,550	\$9,786
Caviar	1,200	1,008	850	595	2,160	1,512	4,270	3,115
Total		3,672		2,91		6,312		12,901

* 4,930 yds.

Sponge Fishery of Florida.

The total number of persons engaged in the sponge fishery of Florida in 1900 was 2,245; the investment in vessels, boats, fishing apparatus, and shore property was \$594,598; and the products amounted to 364,990 pounds, valued at \$567,685. These figures indicate a decided increase in the yield of this fishery in recent years. The catch was slightly less than in 1890, but prices have been constantly advancing and the value of the output is now greater than ever before. "Sheepswool" sponges are more abundant than at any time since 1895, but there is a marked decrease in the yield as compared with earlier years. This decline, which is probably temporary, has apparently resulted in a larger demand for other grades. The increase in the catch of "yellow" and "grass" sponges has therefore more than compensated, both in quantity and value, for the decline in "sheepswool."

The following tables show in detail the extent of the sponge fishery for the year 1900, and also a comparison of the yield and value for the years 1895, 1896, 1899, and 1900:

Sponge fishery of Florida, 1900.

Items.	Key West.		Tarpon Springs.		Apalachicola.		Total.	
	No.	Value.	No.	Value.	No.	Value.	No.	Value.
Persons employed:								
Vessel fishermen.....	1,080		120		30		1,230	
Boat fishermen.....	939		180		25		874	
Shore employees.....	78		54				132	
Total.....	1,827		354		64		2,245	
Vessels, boats, etc.:								
Vessels.....	136	\$167,170	15	\$11,831	5	\$3,150	156	\$182,151
Tonnage.....	1,584		120		37		1,750	
Outfit.....		100,950		11,103		3,440		115,499
Boats.....	183	146,450	40	28,100	5	3,915	228	178,465
Apparatus used in vessel fisheries.....		2,704		353		96		3,153
Apparatus used in boat fisheries.....		2,458		720		45		3,223
Shore and accessory property.....		96,200		12,907				112,107
Total.....		518,932		65,014		10,652		594,598
KINDS AND GROUNDS. ¹	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Catch by vessels on "Bay" grounds:								
Sheepswool.....	79,466	\$229,401	12,572	\$37,046	1,640	\$4,834	93,678	\$271,281
Yellow.....	15,177	11,305	2,370	1,584	404	309	18,017	13,198
Grass.....	26,731	8,140	8,195	2,185	585	156	35,511	10,481
Glove.....	948	134					948	134
Velvet or boat.....	380	64					386	64
Total.....	122,708	249,044	23,143	40,815	2,689	5,299	148,540	295,158
Catch by vessels on "Key" grounds:								
Sheepswool.....	10,199	41,856					10,199	41,856
Yellow.....	10,010	8,003					10,010	8,003
Grass.....	18,266	5,778					18,266	5,778
Glove.....	3,748	542					3,748	542
Velvet or boat.....	2,141	1,752					2,141	1,752
Total.....	53,364	58,931					53,364	58,931

¹ Includes value of outfit.

² "Bay" grounds, i. e., Gulf of Mexico; "Key" grounds, i. e., vicinity of the islands of southern Florida.

Sponge fishery of Florida, 1900—Continued.

Kinds and grounds.	Key West.		Tarpon Springs.		Apalachicola.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Catch by boats on "Bay" grounds:								
Sheepswool	19,074	\$57,609	8,423	\$24,820	996	\$2,934	20,093	\$84,763
Yellow	3,793	2,827	2,670	1,780	438	202	6,901	4,899
Grass	6,083	2,635	10,894	2,905	390	96	17,937	5,030
Glove	237	34					237	34
Total	30,387	61,005	21,987	29,505	1,794	3,322	54,168	94,732
Catch by boats on "Key" grounds:								
Sheepswool	30,341	85,363					30,341	85,363
Yellow	20,250	17,345					20,250	17,345
Grass	37,551	11,968					37,551	11,968
Glove	7,405	1,084					7,405	1,084
Velvet or boat	4,281	3,504					4,281	3,504
Total	108,918	119,204					108,918	119,204
Grand total	315,377	488,744	45,130	70,320	4,483	8,621	364,990	567,685

Yield and value of the sponge fishery in 1895, 1896, 1899, and 1900.

Kinds.	1895.		1896.		1899.		1900.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Sheepswool	231,272	\$363,107	149,724	\$248,196	153,700	\$332,390	181,311	\$483,263
Yellow	29,509	11,798	23,655	9,318	55,800	16,205	55,178	44,045
Grass	21,387	5,464	44,617	11,568	70,900	14,310	109,205	33,263
Other	23,952	6,502	18,315	3,990	18,000	5,000	19,236	7,114
Total	306,120	386,871	236,311	273,012	304,400	367,914	364,990	567,685

FISHERIES OF THE MISSISSIPPI RIVER AND TRIBUTARIES.

A condensed statement of the results of the investigations of the Mississippi River and tributaries has already been published as statistical bulletin No. 107.

The total number of persons engaged in the fisheries of these waters was 11,218, the capital invested amounted to \$1,883,875, and the products aggregated 94,713,402 pounds, valued at \$1,771,812.

The most important apparatus of capture employed in these fisheries is fyke nets. They exceed in value all other forms of apparatus, and are more extensively used in this region than in all the other fishing sections of the United States combined.

Among the products of these fisheries, buffalo-fish is most prominent, the yield being 14,215,975 pounds, valued at \$349,913. Cat-fish is also very abundant, the quantity taken being 7,648,179 pounds, valued at \$339,800. German carp stands next in value and is greater in quantity, the catch being 11,868,840 pounds, valued at \$289,258. Mussel shells constitute another important product, due to their use in the manufacture of pearl buttons, the quantity secured being 45,564,000 pounds, for which the fishermen received \$207,187. Other important products were crappie, worth \$61,400; black bass, worth \$56,652; paddle-fish, worth \$55,514; suckers, worth \$40,340; frogs, \$53,054

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Since the canvass of these fisheries for 1894 there has been a large increase in the quantity and value of products. The products of the fisheries of the Illinois River, the most important tributary of the Mississippi from a fishery point of view, have more than doubled in quantity and value during that period, and are now worth \$386,284, more than two-thirds of which was received for German carp. There has also been a substantial increase in the fisheries of other rivers. In 1899 the fishery products of this river system were greater in quantity and nearly equal in value to the entire output of all the interior waters, exclusive of the Great Lakes, of the United States in 1894.

Fisheries of the Mississippi River and tributaries, 1899.

Items.	Mississippi River and minor tributaries.		Missouri River and tributaries.		Illinois River and tributaries.		Ohio River and minor tributaries.	
	No.	Value.	No.	Value.	No.	Value.	No.	Value.
Persons employed	7,059		820		1,017		1,102	
Boats	4,053	\$76,795	686	\$8,237	698	\$37,658	1,085	\$19,293
Hand and set lines		6,086		807		844		3,285
Crowfoot grapples, rakes, forks, and dredges ¹		10,303						
Seines	511	36,803	121	4,124	140	20,060	180	7,500
Fyke nets	16,119	75,548	1,135	5,457	7,421	41,465	3,703	23,084
Gill nets	4	30			12	240	2	15
Pound nets	62	2,060						
Trawl nets	355	8,200	48	1,077	44	1,047		
Shrimp traps	5,276	987						
Other apparatus		1,791				930		27
Shore and accessory property		594,773		125,217		11,614		51,466
Cash capital		473,150		133,300				
Total investment.		1,287,216		278,300		113,873		104,670
PRODUCTS.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Black bass	275,073	\$17,122	3,970	\$383	104,539	\$9,309	11,119	\$1,090
Buffalo-fish	7,616,889	173,094	549,012	20,934	2,324,552	64,032	407,020	20,260
Carp, German	3,272,716	65,525	44,915	1,587	8,426,887	215,305	90,862	4,836
Cat-fish	3,445,775	141,497	467,088	30,403	676,445	35,802	723,449	37,894
Crappie	480,348	21,203	10,837	776	295,134	11,670	7,007	585
Dog-fish	8,250	50			802,750	8,095		
Drum or sheepshead	1,448,900	30,580	99,435	3,894	245,098	5,075	610,451	37,075
Eels	52,051	2,559	2,525	224	10,293	498	6,061	388
Hickory shad	12,430	32			5,000	75	250	20
Moon-eye	6,300	197					10,726	489
Paddle-fish	1,880,061	41,315	99,900	3,348	26,515	1,062	119,179	5,495
Pike or pickorel	159,871	5,126	15,330	1,058	17,111	1,078	30	5
Pike perch (wall-eyed)	144,314	7,160	10,890	668	11,526	674	13,778	1,379
Rock bass	50,900	2,381			43,074	962	4,831	425
Saugers or sand pike	32,620	1,262					6,240	586
Shad							6,955	355
Sturgeon, lake	178,881	5,220	25,620	1,061	635	23	14,161	835
Sturgeon, shovel-nose	496,614	9,681	75,120	3,118	18,374	378	64,061	3,076
Suckers	680,151	22,156	297,290	10,944	67,790	1,400	402,293	23,044
Sun-fish	171,261	4,467			608,180	10,631	4,740	273
White bass	28,015	1,327	2,140	112	109,953	3,861		
Yellow perch	17,281	369	600	27	12,700	260	33,720	1,046
Other fish	3,810	110					250	18
Frogs	170,872	18,891			26,610	3,224	350	210
Turtles and terrapin	198,654	3,874			517,916	11,050	13,825	658
Shrimp	200,053	16,095						
Mussel shells	45,564,000	2,207,187						
Alligator hides	3,750	698						
Otter skins	182	455						
Caviar	70,300	26,730						
Total products.	66,971,227	827,014	1,704,622	78,477	14,581,392	386,284	2,552,858	140,912

¹ Apparatus used in the mussel fishery.

² Includes \$9,842 worth of pearls and \$5,525 worth of baroque pearls taken from mussel shells.

NOTE.—Several large rivers are classed above as minor tributaries on account of the comparatively small importance of their fisheries.

Fisheries of the Mississippi River and tributaries, 1899—Continued.

Items.	Wabash River and tributaries.		Cumberland River.		Tennessee River.		St. Francis River and tributaries.	
	No.	Value.	No.	Value.	No.	Value.	No.	Value.
Persons employed	232		93		180		346	
Boats	231	\$2,500	95	\$1,044	233	\$2,172	342	\$7,095
Hand and set lines		355		385		1,210		504
Seines	18	700					27	1,870
Fyke nets	645	3,225	535	3,180	1,007	4,904	2,020	10,100
Pound nets							24	1,700
Trammel nets	1	40					52	1,700
Other apparatus		10				705		2,518
Shore and accessory property		365		6,453		21		2,910
Cash capital				15,000				
Total investment		7,195		26,068		9,021		29,297
PRODUCTS.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Black bass	7,413	\$731	7,553	\$429	10,792	\$507	507,200	\$25,363
Buffalo-fish	39,159	3,063	61,382	3,645	119,391	5,864	1,029,200	24,634
Carp, German	17,491	1,490	4,634	304			9,729	179
Cat-fish	126,417	10,321	62,410	4,615	366,795	18,306	487,000	17,762
Crappie	1,972	177	690	58	80	8	481,240	24,182
Drum or sheephead	36,799	2,913	73,104	4,967	328,245	16,620	34,870	539
Eels	6,127	444	1,463	105	8,040	403	6,210	133
Hickory shad					165,055	8,282		
Moon-eye	340	20						
Paddle-fish	3,590	169	6,540	328	145	4	9,120	179
Pike or pickerel							23,910	728
Pike perch (wall-eyed)	8,119	779	1,050	110	14,402	694	4,267	217
Rock bass	4,400	411	1,190	125	82	8	20,320	928
Saugers or sand pike			463	41				
Sturgeon, lake			5,178	436	9,770	489		
Sturgeon, shovel-nose	10,131	744	5,648	412	32,170	1,868	475	5
Suckers	70,282	5,245	10,014	843	200,469	10,008	144,410	2,178
Sun-fish	8,109	774	2,068	190			200,430	3,400
White bass	1,742	167						
Yellow perch			705	44				
Frogs							243,164	30,819
Turtles and terrapin	3,320	186					16,100	482
Orter skins							1,262	3,155
Total products	344,471	27,664	245,047	16,661	1,255,526	62,951	3,820,958	134,863

Items.	Yazoo River.		Red River and tributaries.		White River and tributaries.		Total.	
	No.	Value.	No.	Value.	No.	Value.	No.	Value.
Persons employed	150		127		92		11,218	
Boats	109	\$2,310	171	\$5,239	124	\$1,004	17,817	\$164,247
Hand and set lines		915		627		563		15,680
Crowfoot grapples, rakes, forks, dredges								10,393
Seines			50	600	10	575	1,057	72,241
Fyke nets	1,390	8,340	426	2,101	575	3,104	35,036	180,514
Gill nets							18	285
Pound nets					1	40	8	4,400
Trammel nets			40	320	27	695	567	13,079
Shrimp traps							5,270	887
Other apparatus		13		283				6,283
Shore and accessory property		1,111		205		91		794,316
Cash capital								621,450
Total investment		12,689		9,465		6,072		1,883,875
PRODUCTS.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Black bass	1,000	\$80	6,300	\$518	12,575	\$1,060	948,184	\$56,652
Buffalo-fish	632,500	9,480	495,950	8,371	430,850	15,987	14,215,975	349,913
Carp, German	1,615	82					11,868,840	289,258
Cat-fish	107,800	3,237	453,050	14,672	431,500	25,291	7,048,179	339,800
Crappie	2,050	94	7,980	578	28,575	2,089	1,318,632	61,400
Dog-fish							811,000	8,751
Drum or sheephead	91,520	1,378	104,700	2,877	76,050	2,919	3,140,232	108,786
Eels	1,365	41	280	8			93,905	4,803
Hickory shad							182,735	8,400

¹ Includes 2 small registered vessels and 21 launches and steamboats under 5 tons.

Fisheries of the Mississippi River and tributaries, 1899—Continued.

Products.	Yazoo River.		Red River and tributaries.		White River and tributaries.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Moon-eye.....							17,366	\$706
Paddle-fish.....	327,000	\$3,670	1,200	\$24			2,473,250	53,514
Pike or pickerel.....	350	25	300	18	50	\$7	219,952	8,045
Pike perch (wall-eyed).....			250	29	1,400	161	210,112	12,156
Rock bass.....	2,320	110	2,200	132			129,377	5,482
Saugers or sand pike.....							39,323	1,799
Shad.....							6,955	355
Sturgeon, lake.....							234,145	8,064
Sturgeon, shovel-nose.....					8,500	360	711,693	19,142
Suckers.....	65,900	980	3,700	66	700	28	2,243,899	40,340
Sun-fish.....					16,175	1,283	910,963	21,318
White bass.....					7,250	545	149,080	6,012
Yellow perch.....							65,006	2,606
Other fish.....							4,069	137
Frogs.....							440,996	53,054
Turtles and terrapin.....			1,900	38			782,015	17,148
Shrimp.....							1,200,058	16,095
Mussel shells.....							45,564,000	207,187
Alligator hides.....			1,200	300			24,950	1,233
Otter skins.....	10	25	106	415			1,620	4,050
Caviar.....	400	140					70,700	26,879
Total products.....	1,234,620	19,210	989,156	28,046	1,013,625	49,730	94,713,402	1,771,812

¹ 33,343 gallons.

² 900 in number.

³ 810 in number.

CAVIAR FROM PADDLE-FISH.

The paddle-fish, or "spoon-bill cat," is taken in considerable quantities in the Mississippi River and some of its tributaries. The catch in 1894 amounted to 1,037,395 pounds, valued at \$20,972, and in 1899 had increased to 2,473,250 pounds, valued at \$55,514. Until within a few years past only the flesh of this fish was marketed, but about 1896 the fishermen in various States along the lower part of the Mississippi River began to utilize the roe in the manufacture of caviar. This product is said to be less desirable in flavor than the caviar made from the roe of the sturgeon, and is marketable chiefly because the sturgeon caviar has become scarce and expensive. It is shipped to Chicago and New York.

The following table shows, by States, the quantity and value of paddle-fish caught and of caviar prepared in 1899:

States.	Paddle-fish.		Caviar.	
	Lbs.	Value.	Lbs.	Value.
Arkansas.....	551,405	\$11,067	34,175	\$11,488
Illinois.....	195,174	6,210		
Indiana.....	34,125	1,308		
Iowa.....	36,390	1,128		
Kansas.....	7,850	265		
Kentucky.....	147,260	4,919		
Louisiana.....	132,200	1,960	3,760	1,000
Mississippi.....	948,305	16,739	32,775	14,391
Missouri.....	190,931	5,865		
Nebraska.....	16,375	444		
South Dakota.....	2,050	52		
Tennessee.....	211,185	4,657		
Total.....	2,473,250	55,514	70,700	26,879

FISHING IN THE INTERIOR WATERS OF TEXAS.

The investigations of the fisheries of Texas which have been made by this division have hitherto been limited to the coastal waters. Recent inquiries by Mr. Cobb respecting fishing in certain waters in the central and southeastern parts of the State show that an important amount of fresh-water fish is taken. In this inquiry the rivers were canvassed from the upper limits of tide water to as far as commercial fishing extended. The data related to the year 1900. Fishing was carried on in the Colorado, Brazos, Trinity, Neches, Guadalupe, San Jacinto, and Rio Grande rivers, and in Caddo Lake, tributary to the Red River. The most important of these was the Colorado River. The inquiries on the Rio Grande were very limited.

Commercial fishing in the interior waters of Texas is of comparatively recent date in most of the sections of the State. In the western and northwestern portions, where the population is scattered and railroad facilities are limited, very little fishing is done, while the lack of ice or its high price prevents the utilization of the fishery resources even in those sections where the shipping facilities are fairly good. It is only in the larger towns that ice is cheap. Fishermen at present depend upon the home market for the sale of their catch, and, as it is easily overstocked, fishing is frequently suspended.

In all 188 persons were employed, and 169 boats, valued at \$765, were in use. Set and hand lines, fyke nets and seines were used in fishing, and their value, together with that of the shore property necessary to the business, amounted to \$1,831. By far the greater part of the catch consisted of cat-fish, of which there were taken 202,170 pounds, valued at \$11,961. Buffalo-fish is the next in importance, the quantity taken amounting to 28,295 pounds, worth \$1,436. The total yield of all species in the waters named amounted to 266,871 pounds, valued at \$16,153.

The following tables show by waters the persons employed, capital invested, and the yield of these fisheries in 1900.

Table showing the persons, boats, apparatus, and shore property employed in the fisheries of certain interior waters of Texas in 1900.

Waters.	Persons employed.		Boats.		Set lines.		Hand lines.	Fyke nets.		Seines.		Shore and accessory property.	Total investment.
	No.	Value.	No.	Value.	Yards.	Value.	Value.	No.	Value.	No.	Value.		
Colorado River ...	65	63	\$254	15,507		\$08	-----	90	\$300	-----	-----	\$100	\$912
Brazos River	18	18	86	2,117		20	-----	11	44	-----	-----	52	202
Trinity River	12	12	65	3,200		23	-----	26	116	-----	-----	45	249
Neches River	4	4	20	1,000		8	-----	8	32	-----	-----	5	65
Guadalupe River ..	25	25	145	3,270		18	\$8	11	55	-----	-----	185	411
Rio Grande River ..	18	18	90	2,800		23	-----	-----	-----	2	\$40	33	180
San Jacinto River ..	15	15	75	4,000		22	-----	60	300	-----	-----	145	542
Caddo Lake	12	10	50	4,800		24	-----	-----	-----	-----	-----	75	149
Total	173	169	785	87,354		236	8	206	907	2	40	640	2,616

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Table showing the yield of fisheries of certain interior waters of Texas in 1900.

Waters.	Black bass.		Buffalo.		Cat-fish.		Crappie.		Drum.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Colorado River	2,076	\$172	8,866	\$648	67,910	\$4,866	.....	.....	8,894	\$765
Brazos River	410	33	1,092	73	8,750	609	.....	.....	673	20
Trinity River	500	50	2,314	109	22,400	1,210	200	\$8	1,050	45
Neches River	299	30	380	19	8,300	415	.....	.....	200	10
Guadalupe River	3,960	333	4,343	192	39,900	1,875	2,830	142	.....	.....
Rio Grande River	.....	.....	300	12	21,210	1,301	.....	.....	.....	.....
San Jacinto River	780	78	600	18	32,000	1,600	.....	.....	1,200	48
Caddo Lake	.....	.....	10,400	365	1,700	85	.....	.....	550	11
Total	8,025	696	28,295	1,436	202,170	11,961	3,030	150	12,567	899

Waters.	Eels.		Mullets.		Suckers.		White perch.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Colorado River	156	\$12	1,165	\$105	5,965	\$446	.....	.....	95,032	\$7,014
Brazos River	.....	.....	.....	.....	1,200	36	.....	.....	12,125	771
Trinity River	.....	.....	.....	.....	.....	.....	1,600	\$160	28,064	1,532
Neches River	.....	.....	.....	.....	.....	.....	170	17	9,349	491
Guadalupe River	328	15	.....	.....	.....	.....	.....	.....	51,361	2,557
Rio Grande River	.....	.....	.....	.....	.....	.....	.....	.....	21,510	1,313
San Jacinto River	.....	.....	.....	.....	.....	.....	2,200	220	36,780	1,904
Caddo Lake	.....	.....	.....	.....	.....	.....	.....	.....	12,650	461
Total	484	27	1,165	105	7,165	482	3,970	397	206,871	16,153

COMMERCIAL FISHING IN NEVADA.

Recent fishery inquiries made in Nevada and Utah by Mr. E. A. Tulian indicate important increases in the commercial fisheries of certain minor interior waters of this generally arid region of the West. The investigations in Utah are not yet completed, but those for Nevada show a decided improvement since the fisheries were canvassed in 1895. At that time the yield consisted of 28,690 pounds of trout, worth \$2,023. In 1900 107,536 pounds of trout and black bass were taken, the value of which was \$4,041. The fishery is carried on in a rather desultory manner, the number of persons engaged in it from time to time being 120. The investment in the fishing business amounted to \$1,905. The following tables present statistics of the fishing industry of Nevada for 1900:

Table showing the persons, boats, apparatus, and shore property employed in the fisheries of Nevada in 1900.

Waters.	Persons employed.	Boats.		Lines.		Shore and accessory property.	Total investment.
		No.	Value.	No.	Value.		
Pyramid Lake	38	35	\$875	35	\$105	\$200	\$1,180
Mud Lake	2	2	50	1	3	100	153
Walker Lake	10	10	200	10	30	*100	330
Truckee River	70	.....	.....	70	242	.....	242
Total	120	47	1,125	116	380	400	1,905

Table showing the yield of the fisheries of Nevada in 1900.

Waters.	Black bass.		Trout.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Pyramid Lake	.....	.....	43,543	\$4,041	43,543	\$4,041
Mud Lake	.....	.....	5,044	504	5,044	504
Walker Lake	5,500	\$275	2,500	375	8,000	650
Truckee River	.....	.....	50,049	7,039	50,049	7,039
Total	5,500	275	102,036	12,559	107,536	12,834

FISHERIES OF THE PACIFIC COAST.

A canvass of the fisheries of the Pacific coast States for 1899, the general results of which were announced in a statistical bulletin, No. 20, shows these important fisheries to be now more extensive than during any previous year for which full records exist. This is due chiefly to the great development of the salmon-canning industry in northern Washington.

In 1899 there were employed in the fisheries of these States 19,528 persons. The total investment in the industry was \$12,873,379, and the products, amounting to 217,965,156 pounds, were valued at \$6,278,639.

Since the last canvass of these fisheries (for 1895) the number of persons engaged has increased by 2,223. The increase in the investment amounts to \$5,599,200, while the increase in yield and value amounts to 70,733,977 pounds and \$1,808,687.

Although the fisheries in general have increased in both Washington and California, there has been a falling off in the yield and value of the fisheries of Oregon, traceable to a smaller catch of salmon in the Columbia River.

The amount of capital invested in the fisheries of California has not changed materially since 1895. In Washington the investment has increased by \$4,576,774.

Salmon constitute by far the most important feature of the fisheries, the yield for 1899 being worth at first cost \$3,504,622. The next item in importance is oysters, worth \$1,043,192. The oyster industry consists chiefly in the growing of the seed of eastern oysters transplanted to San Francisco Bay. Other important fisheries are whale products, worth \$456,733; cod, worth \$201,304; halibut, worth \$192,580; shrimp, worth \$107,957, and crabs, worth \$99,518, all other items being represented by smaller amounts.

The following table presents, by States, statistics of the fisheries of this region for 1899:

Fisheries of the Pacific Coast States, 1899.

Items.	Washington.		Oregon.		California.		Total.	
	No.	Value.	No.	Value.	No.	Value.	No.	Value.
Personsemployed.....	9,011		5,643		3,974		19,528	
Vessels fishing.....	32	\$72,400	1	\$0,000	33	\$700,870	66	\$770,270
Tonnage.....	889		59		5,952		6,900	
Outfit.....		41,715		335		413,287		458,337
Vessels transporting.....	72	275,200	30	06,300	15	55,800	117	397,300
Tonnage.....	1,222		330		894		2,386	
Outfit.....		86,314		4,490		4,220		95,024
Boats.....	2,506	233,475	1,830	198,240	1,355	150,335	5,751	582,050
Pilo-drivers.....	30	63,283	1	1,000			31	64,283
Seinees.....	265	93,420	46	19,910	115	13,230	386	126,560
Pound nets.....	540	1,552,650	65	45,200			605	1,597,850
Gill nets.....	1,000	119,591	2,067	297,700	1,970	196,841	5,046	584,132
Trammel nets.....					591	26,280	501	26,280
Hoop nets.....			2,325	1,820	1,537	3,074	3,862	4,903
Shrimp nets.....					1,370	27,800	1,370	27,800
Fyke nets.....	70	700	36	360	356	1,424	462	2,484
Wheals (salmon).....	29	66,300	47	121,300			76	187,600
Beam trawls.....					4	1,400	4	1,400
Lobster pots.....					578	664	578	664
Dredges, tongs, rakes, etc.....		3,553		191		156		3,000
Lines—hand and trawl.....		6,418		400		4,240		11,058
Other apparatus.....		2,355		240		4,522		7,117
Shore property.....		1,200,892		1,173,148		820,650		3,194,690
Cash capital.....		2,779,977		1,561,000		379,700		4,720,677
Total investment.....		6,601,243		3,497,643		2,774,493		12,873,379

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Fisheries of the Pacific Coast States, 1899—Continued.

Products.	Washington.		Oregon.		California.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Albacore					85,776	\$2,912	85,776	\$2,912
Barracuda, fresh					957,420	23,220	957,420	23,220
Barracuda, salted					234,085	9,483	234,085	9,483
Black cod	163,500	\$4,475					163,500	4,475
Bonito					119,737	3,893	119,737	3,893
Carp, German					283,514	2,400	283,514	2,400
Cat-fish	105,700	2,114	54,360	\$1,087	465,911	12,734	625,971	15,935
Cod, salted	930,000	23,250			5,917,131	178,054	6,847,131	201,304
Cultus-cod	91,000	1,530			147,890	3,298	238,890	4,828
Flounders	28,000	560	3,522	53	3,362,140	57,551	3,389,662	58,164
Halibut	6,860,640	191,220	17,000	1,360			6,877,640	192,580
Halibut, bastard					1,375,410	35,127	1,375,410	35,127
Hardhead					185,882	5,849	185,882	5,849
Herring	424,000	2,820	19,120	347	1,637,017	17,683	2,080,137	20,850
Jew-fish					98,000	1,951	98,000	1,951
King-fish					127,198	4,483	127,198	4,483
Mackerel					153,693	6,415	153,693	6,415
Perch	43,000	770	6,360	95	432,483	10,777	481,845	11,642
Pompano					13,135	4,457	13,135	4,457
Rock-fish	72,000	1,440			1,232,810	38,186	1,304,810	39,628
Salmon:								
Chinook, fresh	10,702,189	387,120	13,744,810	659,213	7,084,885	255,249	31,531,884	1,301,582
Chinook, salted	118,220	5,911	2,400	75	3,000	210	123,620	6,196
Blueback, fresh	41,931,194	1,307,514	579,183	21,298	21,600	755	42,531,977	1,329,582
Blueback, salted	70,000	2,801					70,000	2,801
Silver, fresh	20,606,688	364,287	5,154,375	97,281	60,100	2,105	25,821,221	463,673
Silver, salted	21,000	630					21,000	630
Steelhead, fresh	1,507,465	69,242	1,163,522	48,014	113,600	3,870	2,724,587	121,182
Humpback, fresh	18,579,907	133,658					18,579,907	133,658
Humpback, salted	1,296,093	31,653					1,296,093	31,653
Dog, fresh	6,522,629	109,940	789,615	3,948			7,312,244	113,888
Dog, salted	22,302	446					22,302	446
Salmon trout	44,000	3,080					44,000	3,080
Sardines					2,389,822	17,967	2,389,822	17,967
Sea bass	5,000	150			998,156	20,492	943,156	20,642
Shad	85,000	1,275	32,000	320	1,137,801	14,303	1,254,801	15,898
Smelt	937,000	9,810	28,000	340	1,815,249	58,064	2,280,249	608,214
Striped bass					1,234,320	61,814	1,234,320	1,814
Sturgeon	89,685	3,907			205,659	11,426	295,344	15,333
Tomcod					375,538	6,882	375,538	6,882
Yellow-tail					204,644	6,677	204,644	6,677
Other fish					490,644	11,785	490,644	11,785
Abalone meats					369,411	22,813	369,411	22,813
Oysters	5,901,320	174,567	59,100	1,625	28,800,000	867,000	34,760,420	1,043,192
Clams	3,131,825	23,248	970,290	9,434	2,170,934	31,045	6,281,549	63,727
Mussels	19,200	240			304,076	3,637	383,276	3,877
Crabs	274,696	11,110	110,604	2,615	3,676,080	85,784	4,061,980	92,618
Crawfish			116,400	7,760			116,400	7,760
Spiny lobster					606,713	14,198	606,713	14,198
Shrimp	19,600	1,960			933,375	96,185	922,075	88,095
Shrimp, dried					698,625	69,862	698,625	69,862
Squid, dried					622,740	18,682	622,740	18,682
Frogs					20,687	20,638	20,687	20,638
Torrupin					107,860	10,376	107,860	10,376
Whalebone					207,392	436,272	207,392	436,272
Whale oil	15,000	300			507,300	20,191	522,300	20,491
Other products	375	1,000	18,750	800	3,149,928	24,740	3,160,053	26,630
Total	120,587,726	2,871,438	22,818,411	855,750	74,559,019	2,651,451	217,965,166	6,278,639

The above values of products are those received by the fishermen. Salmon, fresh, includes the quantity afterwards canned, the value of which is thereby greatly increased, as shown below:

Quantity and value of salmon canned in 1899.

Salmon.	Washington.		Oregon.		California.		Total.	
	Cases.	Value.	Cases.	Value.	Cases.	Value.	Cases.	Value.
Chinook	95,147	\$482,161	214,821	\$1,212,566	34,180	\$159,498	344,148	\$1,854,195
Blueback	503,950	2,388,644	10,665	114,413			523,615	2,503,057
Silver	145,130	544,824	78,730	292,705			223,860	837,529
Dog	42,656	116,284	18,345	54,480			61,001	170,764
Humpback	232,733	734,241					252,733	734,241
Steelhead	2,258	9,175	9,736	30,011			11,994	39,186
Total	1,041,883	4,275,329	341,297	1,704,235	34,180	159,468	1,417,360	6,139,632

Number of canneries: Washington, 28; Oregon, 23; California, 4.

The following shows the yield of the fisheries for certain years, exclusive of value of canned salmon:

Yield of the fisheries of the Pacific coast States in 1888, 1892, 1895, and 1899.

Year.	Washington.		Oregon.		California.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
1888	18,914,336	\$703,108	25,169,206	\$1,010,843	23,313,324	\$1,091,398	67,576,926	\$2,805,340
1892	36,767,287	931,598	28,621,105	872,405	57,838,466	3,022,991	186,208,193	6,245,192
1895	59,079,527	1,401,433	34,141,632	1,282,039	50,010,020	1,786,483	147,231,179	4,469,952
1899	120,687,726	2,871,438	22,818,411	855,750	74,659,019	2,551,451	217,965,166	6,278,639

CONDITION OF THE PRIBILOF FUR-SEAL ROOKERIES.

During the month of July, 1900, Mr. Townsend visited the Pribilof Islands for the purpose of procuring information respecting the condition of the fur-seal rookeries. The customary data, consisting chiefly of actual counts of the number of harems upon each breeding-ground and of the number of seals born during the season, were secured.

Between July 12 and 19 the harems were counted on all rookeries. Counts were made of the seals born on certain rookeries upon which counts have been made systematically for several years. Counts were also made of the pup seals that died on the rookeries from natural causes prior to the loss resulting from pelagic sealing. During the killing season records were kept of the proportion of seals rejected from the drives.

The seals have been diminishing in number upon the breeding-grounds for many years, the annual decrease during the past few years amounting to about 20 per cent. The percentage of decrease has been based chiefly upon the counts of pups. The counts for the season of 1900 did not reveal a decrease in the number of seals born as compared with the previous season. This is traceable to the light pelagic catch made in 1897. The census of breeding females in 1897 placed the number at 129,216. A census of the same class of seals in July, 1900, shows the total number to be 100,634. This shows a reduction of 28,572 breeding females since 1897.

The seals available for killing upon the islands have heretofore consisted of 3-year-old males, the number taken becoming less from year to year until 1899, when 16,812 were secured. During the past season only about 9,000 seals of this class could be found. The price of skins being higher than usual, a number of 2-year-olds were taken, the number from both classes amounting to 21,994. This departure from the custom of the lessees was brought about by the high price of skins, and will result in a diminished catch of 3-year-olds next season.

The average weight of skins taken on the islands is 9 to 10 pounds, but the small seals included in the quota for the present season reduced the average weight to 6 or 6½ pounds.

Sufficient numbers of seals are always absent from the killing-grounds when drives are made which later recruit the ranks of breeding males. There is no lack of large males in the breeding rookeries, the reduction in breeding females through pelagic sealing being relatively greatly in excess of any killing of males on land. During the past five years the killings of males on land have been as follows: 1896, 30,654; 1897, 19,200; 1898, 18,032; 1899, 16,812; 1900, 21,944. The majority taken in 1900 were 2-year-olds. During the same period the pelagic catch from the American herd, chiefly females, has been as follows: 1896, 43,917; 1897, 24,322; 1898, 27,689; 1899, 34,647; 1900, 35,427.

The increased pelagic catches of the past two seasons do not indicate any increase in the size of the seal herd, and too much importance should not be attached to the continued success of the pelagic sealing fleet. The fleet at present is about half the size it was a few years ago, and the average per vessel is still good, but it must not be supposed that a fleet of the original size could now make such catches as were made formerly. The pelagic catch can not show the condition of the seal herd; that can only be known from the conditions existing on the breeding rookeries. The pelagic catch in Bering Sea consists chiefly in nursing females and is followed by a loss of pup seals upon the islands equal to the number of females killed. The increased catch of the season, with the accompanying loss of pups, may be expected to show a great reduction of the seal herd upon the islands next season.

Upon the return of Mr. Townsend a detailed report of the investigation was made to the Treasury Department.

NOTE ON THE WHALE FISHERY.

The American whaling fleet is now composed of 22 vessels in the Atlantic Ocean and 18 vessels in the Pacific Ocean. Since 1890 the fleet has been gradually reduced from 97 vessels, aggregating 22,464 tons, to 40 vessels, with a total of 8,746 tons. The decrease in number and tonnage has been caused by withdrawals and the loss of vessels at sea in about equal numbers, very few additions having been made to the fleet.

The whaling vessels of the Atlantic Ocean are nearly all engaged in the capture of sperm whales, the catch of whalebone being made almost entirely by vessels of the Pacific fleet. In 1900 the yield of sperm oil, amounting to 18,525 barrels, and of whale oil, amounting to 5,510 barrels, was a little larger than for 1899, but the yield of whalebone, amounting to 207,650 pounds, was only two-thirds that of the preceding year.

In 1900 the schooner *Robert S. Graham*, of New Bedford, returned from Kerguelen Island with 2,600 barrels of sea-elephant oil. Only three voyages have been made in this fishery during recent years.